88-0360/MT

Historic Resource Management Plan For Managing Historic Properties That May Be Affected By The White Rapids Hydroelectric Project FERC Project No. 2357

Prepared for:

Wisconsin Electric
P.O. Box 2046
Milwaukee, WI 53201-2046

MEAD & HUNT
ENGINEERS
ARCHITECTS
SCIENTISTS
PLANNERS

May 1998

Table of Contents

List of Appendices

Appendix

Historic Resource Management Plan
White Rapids Hydroelectric Project
FERC Project No. 2357

1. Introduction

This Historic Resource Management Plan (HRMP) is based on the provisions of the *Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, the State of Wisconsin, State Historic Preservation Officer, and the State of Michigan, State Historic Preservation Officer, for Managing Historic Properties That May Be Affected By New and Amended Licenses Issuing for the Continued Operation of Existing Hydroelectric Projects in the State of Wisconsin and Adjacent Portions of the State of Michigan* (see Appendix A). The Programmatic Agreement (PA) was executed on December 30, 1993, under the regulatory authority of Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations of 36 CFR Part 800. The PA was signed by the Federal Energy Regulatory Commission (FERC), Advisory Council on Historic Preservation (ACHP), Wisconsin State Historic Preservation Office (Wisconsin SHPO), and the Michigan State Historic Preservation Office (Michigan SHPO). The FERC granted a license authorizing Wisconsin Electric (WE) to continue operating the White Rapids Hydroelectric Project for a period of 30 years, beginning May 7, 1997. Wisconsin Electric plans to operate the project in a run-of-river mode and will maintain outflow equaling inflow as nearly as practicable.

This HRMP is organized as follows:

- *Section 2* – An overview section describing the Area of Potential Effects (APE) and an inventory summarizing the results of efforts to identify and evaluate archaeological and historic properties.

- *Section 3* – A management section establishing measures to protect archaeological and historic properties within the project's APE.

2. Overview

A. Area of Potential Effects

The White Rapids Hydroelectric Project is located on the Menominee River in Marinette County, Wisconsin, and Menominee County, Michigan, approximately 55 miles upstream from where the river flows into Green Bay, Wisconsin. The Chalk Hill Hydroelectric Project, also owned by WE, is located immediately above the project's headwaters, about 2.5 miles upstream from the White Rapids Hydroelectric Project. A *Location Map* is included in Appendix B. As defined in the PA, the project's APE includes lands enclosed by the project boundary as delineated in the existing license. The *Project Boundary and APE Map*, included in Appendix B, shows the limits of the project boundary. These limits are also the extent of the APE.

The project boundary includes the White Rapids Hydroelectric Facility and encompasses approximately 802 acres of land and 435 acres of water. The project shoreline along the Menominee River extends north from the hydroelectric facility, totaling approximately 10 miles. The project boundary incorporates portions of Sections 17, 20, 21, 28, 29, and 30, T36N, R28W in Menominee County, Michigan, and Sections 7, 18, and 19, T35N, R22E in Marinette County, Wisconsin. Wisconsin Electric owns all land within the project boundary.

B. Archaeological Inventory

Results of the Phase I archives and literature search and reconnaissance survey, and the Phase II site evaluations are detailed in *Archaeological Investigations at the White Rapids Hydroelectric Project (FERC Project No. 2357), Marinette County, Wisconsin, and Menominee County, Michigan*, prepared by Great Lakes Archaeological Research Center, Inc. (GLARC), June 1991. The Phase I archives and literature search revealed five previously reported prehistoric, and two previously reported historic archaeological properties within the APE.

The Phase I reconnaissance survey found only one of the seven previously identified properties (47-Mt-25) and identified four new properties (47-Mt-96, 47-Mt-97, 47-Mt-98, and 20-Me-45). The six previously identified properties that could not be relocated were: 20-Me-3, 20-Me-17, 47-Mt-44, 47-Mt-43, 47-Mt-45, and an Indian trail (see *Archaeological Properties Location Map* in Appendix B). The survey examined the shoreline at the Menominee River flowage (approximately 10 miles) and adjacent upland areas, including the site of project facilities, designated recreational areas, and locations of known archaeological properties. Wetland areas and areas of steep slope were excluded from the survey.

The Phase II evaluation concluded that two of the newly identified properties, White Rapids WEPCO Sites A (47-Mt-98) and B (47-Me-45) do not meet the eligibility criteria of the National Register of Historic Places (NRHP). The three mound properties (47-Mt-25, 47-Mt-96, and 47-Mt-97) appear intact and are eligible for the NRHP.

The archaeologist GLARC determined that project-related impacts do not threaten the integrity of the identified archaeological properties or the four unrecorded properties. According to the survey report, impact from the project operations are, for the most part, minimal and the majority of the shoreline is stable. This is either because the shoreline is formed by bedrock outcrops or it is protected by vegetation.

In accordance with the PA, an additional archaeological survey was conducted in May 1997 prior to ground-disturbing activities at the Chalk Hill Camp in Marinette County, Wisconsin. The survey, *Archaeological Survey at Fox River Area Girl Scout Council Chalk Hill Camp, Marinette County, Wisconsin*, completed by Allen P. Van Dyke of BZ Engineering, Inc., identified no archaeological sites that are potentially eligible for the NRHP in the project area.

C. Historical Inventory

Results of an historical evaluation of the hydroelectric project are detailed in *White Rapids Hydroelectric Facility District* (NPS Form 10-900), prepared by Linda Brazeau of GLARC, May 1991. The White Rapids Hydroelectric Facility, built between 1926-27, was evaluated for its National Register eligibility. The district meets Criterion C of the NRHP as an architecturally significant example of the Art Deco style applied to a hydroelectric facility. The historic district is comprised of three contributing resources that are directly associated with the production of hydroelectric power: (1) two earth dikes, (2) a spillway consisting of nine tainter gates, and (3) a powerhouse (see *Historic Properties Location Map* in Appendix B).

The facility was designed by Holland, Ackerman, and Holland of Chicago for the Northern Electric Company. The district has sufficient integrity to convey important historical information concerning hydroelectric power generation in northern Wisconsin and the Upper Peninsula of Michigan. No other historic properties were identified within the APE.

3. Measures to Protect Archaeological and Historic Properties

A. Designation of Wisconsin Electric Representative

The Manager of Hydro will be responsible for integrating measures specified in this HRMP into facility decision-making. The Manager of Hydro or a designee will also identify potential conflicts and implement procedures for resolving these conflicts.

B. Qualifications of Archaeologists and Historians

All project activities requiring an archaeologist or historian, as defined in this HRMP, will be completed by or under the direct supervision of a person or persons whose qualifications meet the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*.

C. Resource Management

The following procedures apply to the management of historic and archaeological properties.

(1) Shoreline Monitoring

Wisconsin Electric will retain a qualified archaeologist to monitor previously and newly identified archaeological properties for shoreline erosion. Wisconsin Electric will operate the White Rapids Hydroelectric Facility in a run-of-river mode. Run-of-river mimics a natural flow, whereby shoreline erosion is due to precipitation runoff, not project operations.

- Wisconsin Electric will conduct an archaeological survey of the project shoreline within 5 years of license issuance. The Wisconsin SHPO will be invited to accompany the archaeologist on this site inspection trip.

- Wisconsin Electric will retain a qualified archaeologist to conduct a second shoreline inspection 10 years after the effective date of the new license. Two copies of the archaeologist's results will be forwarded to the Wisconsin SHPO.

- If significant archaeological properties are identified during the inspection, the archaeologist will apply the criteria of evaluation to determine if the properties are eligible for the NRHP.

- Based upon the results of the shoreline inspections completed within 5 and 10 years after license issuing, WE, in consultation with the Wisconsin SHPO, will determine the need for additional site inspections during the term of the new license.

(2) Unsurveyed Lands Within the Project Boundary

Wisconsin Electric will undertake one of the following procedures to account for archaeological and/or historic properties on unsurveyed lands.

(a) Consultation

Wisconsin Electric will consult with the Wisconsin SHPO regarding the need for an archaeological and/or historic survey at least 45 days prior to proposed land management activities that include ground disturbance and have the potential to damage or destroy as yet unidentified properties potentially eligible for the NRHP.

Wisconsin Electric will consult with the Wisconsin SHPO regarding the need for an archaeological survey at least 45 days prior to a drawdown or dewatering that meets the following conditions:

- No previous archaeological survey has been conducted.

- The resulting water surface elevation will be at least 10 feet below the normal target of 716.5 feet National Geodetic Vertical Datum (NGVD).

- It exceeds any previous drawdown where an archaeological survey was conducted by 3 or more feet.

Such consultation will include a summary of the proposed activity and a map showing its proposed location. If required, the survey will be conducted by a qualified archaeologist and/or historian in the planning stage of any proposed ground-disturbing activity. If the review reveals the presence of historic or archaeological properties, WE will retain a qualified archaeologist or historian, as appropriate, to determine if the properties are eligible for the NRHP. Wisconsin Electric will consult with the Wisconsin SHPO to develop a plan to take into account eligible archaeological and historic properties.

Surveys will be conducted during the planned period of the drawdown or dewatering so as not to cause, occasion, or prolong a period of drawdown or dewatering. Surveys will not be conducted during winter drawdowns, where the ground is frozen and the shoreline is not accessible.

Wisconsin Electric will notify the Wisconsin SHPO of an emergency drawdown as soon as circumstances permit, but not more than 7 days following the emergency. Notification will include an explanation of the extent of and the reason for the drawdown.

(b) Predictive Model

Wisconsin Electric may elect to use a predictive modeling approach to assist in identifying archaeological and historic properties. Wisconsin Electric will seek the Wisconsin SHPO's concurrence in the methodology to be used in developing the predictive model. Wisconsin Electric will also consult with the Wisconsin SHPO on the statistical sampling and testing phases of model development.

The predictive model will define areas that will and will not require an archaeological survey if ground disturbance is proposed. Once the predictive model has been completely developed, WE may choose to implement its procedures. If WE uses the results of the predictive model to determine the need for a survey, the procedures defined by the model will substitute for consultation as outlined in *Section 3.C.(2)(a)*. If the results of the model indicate that a survey is needed, the survey and any other necessary resource management activities will be conducted as outlined in Section *3.C.(2)(a)*.

If for any reason the developed predictive model is not adopted, WE will continue to consult with the Wisconsin SHPO regarding survey needs in accordance with the conditions stipulated in *Section 3.C.(2)(a)* above.

(3) In-Place Preservation at Shorelines

Wisconsin Electric will give priority to preserving historic properties in place through shoreline stabilization.

- If shoreline stabilization will disturb historic properties, WE will submit shoreline stabilization plans to the Wisconsin SHPO for review and comment. The plan will describe the type of stabilization proposed, the provisions for archaeological data recovery, and include a budget and schedule. If the Wisconsin SHPO does not respond within 45 days of receiving the submission, or responds with no objections to WE's plan, WE will implement the plan.

- Where preservation in place is deemed not to be feasible by WE in consultation with the Wisconsin SHPO, and data recovery is found to be necessary, WE will develop a plan for recovering archaeological data.

  The plan, to be developed in consultation with the Wisconsin SHPO, will be consistent with *Treatment of Archeological Properties*, prepared by the ACHP in 1980 (see Appendix C), and include the following:

  – Wisconsin Electric will identify the property, properties, or portions of properties where data recovery is to be carried out, as well as any property, properties, or portions of properties that will be destroyed or already have been affected without the benefit of data recovery.

  – Wisconsin Electric will specify the research questions that are to be addressed through data recovery and explain their relevance and importance.

  – Wisconsin Electric will specify the means to recover, analyze, manage, and disseminate data to the professional archaeological community and the general public, and explain the relevance of these means to the research questions; involve the interested public in the data recovery project; and, as appropriate, keep Native American tribes informed of the data recovery project and afford them the opportunity to participate.

  – Wisconsin Electric will include a schedule for implementing the data recovery plan.

  – Wisconsin Electric will include a plan for the disposition of recovered materials and records. All artifacts, notes, records, reports, maps, and any other types of documentation will be curated in the State of Wisconsin. All items will be stored in a facility that meets the requirements of 36 CFR, Part 79, insofar as this purpose can be achieved consistent with the rights of private property owners.

  – Wisconsin Electric will propose a schedule for submitting progress reports to the Wisconsin SHPO, where such reports are appropriate.

Wisconsin Electric will submit the data recovery plan to the Wisconsin SHPO for approval prior to implementation. Wisconsin Electric will submit two copies of a final report detailing the results of the data recovery efforts to the Wisconsin SHPO for review and approval.

(4) Historic Properties

The White Rapids Hydroelectric Facility District has been determined eligible for the NRHP under Criterion C. The significance of the facility is tied to its continued operation as a hydroelectric facility. Thus, the primary thrust of the management plan is to attempt to preserve the facility in its current operational condition to the greatest extent possible. This approach should be undertaken in consideration of the need to operate the facility in a safe and efficient manner.

The district includes three contributing resources covered by this HRMP. No other known historic properties are within the APE. On the basis of the continuing use of the facility, WE will implement the following measures:

- Wisconsin Electric will operate and maintain the White Rapids Hydroelectric Facility according to *The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*, revised 1990, (see Appendix D) and applicable National Park Service Preservation Briefs.

- Wisconsin Electric will avoid destroying, demolishing, or otherwise altering the facilities, distinguishing qualities or character of the facility, and its environment. The removal or alteration of any historic material or distinctive architectural feature will be avoided when possible. Deteriorated features will be repaired, rather than replaced, wherever possible. Surface cleaning of the structure will be undertaken with care.

- If modifications to the hydroelectric facility other than in-kind replacement are to be made, the Wisconsin SHPO and FERC shall be notified of the nature and rationale for such changes, and be provided an opportunity to review and comment on the proposed work prior to its implementation. Wisconsin Electric will submit plans and specifications including: a description of the proposed undertaking with relevant photographs and other needed documentation; a description of the alternatives and mitigation measures, both considered and proposed; and a project plan and schedule. If the Wisconsin SHPO and the FERC do not respond within 45 days of receiving the submission, or respond with no objections to WE's plan, WE will implement the plan. Replacement of deteriorated generating equipment with new equipment will be considered in-kind replacement.

- Wisconsin Electric will notify the Wisconsin SHPO of an emergency undertaking should it require major project modifications as soon as circumstances permit, but not more than 7 days following the emergency. Notification will explain any major modifications to historic properties required to cope with the emergency.

- Wisconsin Electric will continue routine maintenance and replacement in-kind of project facilities with no direct consultation with the Wisconsin SHPO. Routine repair and replacement in-kind includes: concrete repair work; maintenance and overhaul of existing generating and hydraulic equipment; maintenance of existing buildings and structures; dike repair and maintenance; maintenance and improvement of electrical systems; replacement of substation and transmission components; compliance with FERC-mandated safety improvements not requiring structural modifications; development and maintenance of exterior public recreational components not requiring structure modification or ground disturbance; and placement and maintenance of public safety devices, railings, fences, and signs.

(5) Treatment of Human Remains

Wisconsin Electric will ensure that the treatment and disposition of human remains and grave-associated artifacts that may be discovered are treated according to Section 157.70, Wisconsin Statutes, and take into account the ACHP's *Policy Statement Regarding Treatment of Human Remains and Grave Goods* (September 27, 1988, Gallup, NM). If Native American cultural items are discovered on federal lands within the project area, WE will comply with the *Native American Graves Protection and Repatriation Act of 1990* (25 U.S.C. Section 3001).

(6) Late Discovery

If previously unidentified archaeological properties are discovered during ground-disturbing activities, WE will ensure that all activities that may affect the property are halted. Wisconsin Electric will develop and implement actions that take into account the effects of the undertaking on the property to the extent feasible. Wisconsin Electric will provide the Wisconsin SHPO with a description of the proposed actions and request comment.

D. Public Interpretation

The following will be conducted to interpret historic properties for the benefit of the public:

- Wisconsin Electric will work with the Menominee Iron Range Museum in Iron Mountain, Michigan, to develop or sponsor an exhibit about the role the WE-owned White Rapids, Brule, Sturgeon, Chalk Hill, Pine, and Class of 2001 hydroelectric plants played in the development of hydroelectricity in the region. Wisconsin Electric, in consultation with the Menominee Iron Range Museum, will develop a plan for the exhibit within 3 years of license issuance. The Wisconsin SHPO will be invited to comment on the plan. Wisconsin Electric will work with the Menominee Iron Range Museum to have the exhibit in place within 4 years of license issuance.

E. Reporting and Review Procedures

In accordance with Stipulation III.B. of the *Programmatic Agreement*, on January 31 of every year, WE will file a report with the FERC and Wisconsin SHPO outlining all activities associated with implementing the HRMP undertaken in the preceding year and planned during the ensuing year. Wisconsin Electric will consult with the Wisconsin SHPO regarding any proposed amendments to the HRMP.

Appendix A. Programmatic Agreement

PROGRAMMATIC AGREEMENT
AMONG
THE FEDERAL ENERGY REGULATORY COMMISSION,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,
THE STATE OF WISCONSIN, STATE HISTORIC PRESERVATION OFFICER,
AND
THE STATE OF MICHIGAN, STATE HISTORIC PRESERVATION OFFICER,
FOR MANAGING HISTORIC PROPERTIES
THAT MAY BE AFFECTED BY NEW AND AMENDED LICENSES ISSUING
FOR THE CONTINUED OPERATION OF
EXISTING HYDROELECTRIC PROJECTS IN
THE STATE OF WISCONSIN
AND ADJACENT PORTIONS OF
THE STATE OF MICHIGAN

WHEREAS, the Federal Energy Regulatory Commission (hereinafter, "Commission") proposes to issue new and amended licenses, pursuant to Part I of the Federal Power Act, 16 U.S.C. Sections 791(a) through 825(r), for the continued operation of existing hydroelectric projects (hereinafter, "Projects") in the State of Wisconsin and in adjacent portions of the State of Michigan's Upper Peninsula; and,

WHEREAS, the Commission has determined that issuing new and amended licenses for Projects may affect properties included in, or eligible for inclusion in, the National Register of Historic Places (hereinafter, "Historic Properties"); and,

WHEREAS, the Commission has consulted with the Advisory Council on Historic Preservation (hereinafter, "Council"), the State of Wisconsin, State Historic Preservation Officer (hereinafter, "Wisconsin SHPO"), and the State of Michigan, State Historic Preservation Officer (hereinafter, "Michigan SHPO"), pursuant to Section 106, National Historic Preservation Act, as amended (16 U.S.C. Section 470f; hereinafter, "the Act") and the Council's regulations implementing this Section, 36 C.F.R. Part 800, concerning such Projects and their potential effects; and,

WHEREAS, the Commission, the Council, the Wisconsin SHPO, and the Michigan SHPO are the executing parties to this Programmatic Agreement (hereinafter, "Parties"); and,

WHEREAS, for the purposes of this Programmatic Agreement, the Michigan SHPO agrees to coordinate its responsibilities for review and comment through the Wisconsin SHPO, and the Wisconsin SHPO agrees to coordinate and cooperate on all decisions regarding cultural resources in the State of Michigan with the Michigan SHPO; and,

WHEREAS, the contents of the documents appended to this Programmatic Agreement are herewith incorporated entirely by reference and held to be integral to it; and,

WHEREAS, this Programmatic Agreement does not supersede Programmatic Agreements executed prior to the date of its execution;

NOW, THEREFORE, the Commission, the Council, the Wisconsin and Michigan SHPOs agree that Projects will be administered according to the following stipulations, thus satisfying the Commission's responsibilities under the Act for the individual Projects to which they apply.

S t i p u l a t i o n s

The Commission will ensure that the following measures are carried out by applicants for new or amended licenses (hereinafter, "Licensees") for Projects located entirely in the State of Wisconsin or in the States of Wisconsin and Michigan.

Licensees whose applications are tendered the Commission after the date this Programmatic Agreement is executed will comply with all parts of this Programmatic Agreement.

Licensees whose applications, as of the date this Programmatic Agreement is executed, are already tendered, may omit Part I, herein.

I. PRE-LICENSING PROCEDURE

The following steps will be completed by Licensees before tendering the Commission an application, in consultation with the Wisconsin SHPO, and in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (published in the Federal Register, Vol. 48, No. 190, pages 44716 through 44742; hereinafter, "Secretary's Standards").[1] Moreover, these steps will be completed by or under the direct supervision of a person or persons whose qualifications at least meet the Secretary's Standards, as applicable to the relevant preservation discipline.

---

[1] See Appendix One of this Programmatic Agreement.

A. Identification of Historic Buildings, Structures, and Objects: Licensees will identify historic buildings, structures, and objects associated historically, structurally, spatially, or functionally with their Projects and within their Projects' Areas of Potential Effects [2] (hereinafter, "APE"). Upon completing this identification, Licensees will submit two copies of the resulting reports, prepared in accordance with the guidelines, Architecture/History Survey Report Specifications For Compliance-Driven Surveys, [3] to the Wisconsin SHPO pursuant to 36 C.F.R. Part 800, at Section 800.4.

B. Identification of Archaeological Properties: Licensees will survey Project shoreline areas within their APEs, except that no Licensee will be required by the stipulations of this Programmatic Agreement to survey shoreline areas within another Licensee's Project boundary, to identify archaeological sites currently subject to erosion, in accordance with the Wisconsin Archaeological Survey Guidelines For Conservation Archaeology in Wisconsin; [4] prepare reports based on the results of surveys; and submit these reports, in duplicate copies, along with all appropriate documentation to the Wisconsin SHPO for review and comment. All supporting photographic documentation will be submitted as original prints.

C. Evaluation of Identified Properties: Licensees will apply the Criteria of Evaluation, 36 C.F.R. Part 60, at Section 60.4, and, as appropriate, the principles set forth in

---

[2] For purposes of this Programmatic Agreement, the APE for Projects for which a new or amended license issues, as APE is defined in 36 C.F.R. Part 800, at § 800.2(c), includes all the following: (a) lands enclosed by the project boundary as delineated in the existing License, (b) attached or associated buildings and structures extending beyond the project boundary, which contribute to the National Register for Historic Places eligibility of the hydroelectric generating facility, (c) lands or properties outside the project boundary, where the project may cause changes in the character or use of Historic Properties, if any Historic Properties exist.

[3] See Appendix Two of this Programmatic Agreement.

[4] See Appendix Three of this Programmatic Agreement.

Hydroelectric Development in the United States, 1880-1940, [5] to every historic building, structure, object, and archaeological property identified in fulfillment of this Part of this Programmatic Agreement, in accordance with 36 C.F.R. Part 800, at Section 800.4.

1. For each individual property to which the Criteria of Evaluation is applied the Licensee will report its results in written form. For each individual property that the Licensee finds to be eligible for listing on the National Register of Historic Places, the Licensee will report these results on a National Park Service Form 10-900; (hereinafter, "Form").

2. Licensees will complete the Forms according to National Register Bulletin Nos. 15 and 16, and the Wisconsin Supplementary Manual, [6] and submit to the Wisconsin SHPO an original and two copies of each Form completed, with other supporting materials. Other supporting materials will include the following.

a. For archaeological properties, Licensees will include a professionally-written report detailing the results of the Phase 1 Survey, stipulated at Part I.B, herein, describing any analysis and interpretation of the data undertaken subsequent to the Phase 1 Survey.

b. Licensees will include all supporting photographic documentation, as original prints, for each of the three copies submitted to the Wisconsin SHPO, submitted as physically separate documents.

c. Licensees will include a cover letter summarizing the Licensee's determination of eligibility for each of the properties documented on the Forms.

3. Licensees may avoid this requirement for eroding archaeological properties by consulting with the Wisconsin SHPO and employing means acceptable to the Wisconsin SHPO for stabilizing such properties and preserving them in place.

---

[5] This reference is to a 1991 nationwide historic context on the development of hydroelectric power generation by Dr. Duncan Hay, for the Edison Electric Institute. See Appendix Four of this Programmatic Agreement for the relevant portions of this document.

[6] See Appendix Five of this Programmatic Agreement.

4. Licensees may seek additional assistance in the evaluation of archaeological properties from National Register Bulletin Nos. 12, 36, and 38.

5. If the Wisconsin SHPO deems the documentation to be incomplete, the Wisconsin SHPO may return it to the Licensee to be revised. If the Wisconsin SHPO deems the documentation complete, the Wisconsin SHPO will apply the Criteria for Evaluation, 36 C.F.R. Part 60, at Section 60.4, in accordance with 36 C.F.R. Part 800, at Section 800.4; sign the completed Form formalizing the determination of eligibility; retain the original Form; and return two signed copies to the Licensee.

6. The Licensee will file a copy of the completed Form bearing the Wisconsin SHPO's signature with the Commission, for information, with all supporting materials.

II. POST LICENSING PROCEDURE

In fulfilling the requirements of this Part of this Programmatic Agreement, Licensees, in consultation with the Wisconsin SHPO, will address all issues regarding Historic Properties that were not resolved prior to a license's issue, and will ensure that Historic Properties are considered in the continued operation and maintenance of hydroelectric facilities during the term of their licenses in accordance with the following stipulations. To further this purpose, Licensees will develop Historic Resources Management Plans (hereinafter, "HRMP").

A. Interim Procedures: Until a Licensee's HRMP has been approved, the Licensee will comply with 36 C.F.R. Part 800, at Sections 800.4 through 800.6, with respect to any proposed ground-disturbing activities.

B. Historic Resources Management Plan: Each Licensee, within one year of a license issuing, will develop an HRMP that addresses each of the following subjects, or that provides documentation sufficient to justify any omissions, based on the irrelevance of the omitted subject. The Licensee will file one copy of the HRMP with the Commission and one with the Wisconsin SHPO for review. If the Wisconsin SHPO agrees with the HRMP, the Licensee will implement it.

1. Shoreline Monitoring: The HRMP will include a procedure for monitoring the Project shoreline on a periodic basis and reporting the results of monitoring by submitting an archaeological report in two copies to the Wisconsin SHPO. If archaeological properties are identified during monitoring, the

Licensee will implement Part I.C, herein.

2. Unsurveyed Lands Within the Project Boundary: At Projects where no prior archaeological survey has been conducted, including lands normally inundated by the Project reservoir and property owned by someone other than the Licensee (hereinafter, "Private Property"), the HRMP will include the following procedures:

a. For unsurveyed lands that are not normally inundated by the project reservoir, the Licensee will include one of the following procedures in the HRMP.

(1) The Licensee may include a procedure for ensuring that an archaeological survey is conducted in the planning stage of any significant ground-disturbing activity (including, but not limited to, land management, timber management, recreational development, and lease or sale) proposed to be carried out by the Licensee on these lands that may disturb Historic Properties.

(2) Alternatively, the Licensee may include a procedure for completing archaeological surveys for these lands within ten years of the date the license issues.

b. For unsurveyed lands that are normally inundated by the project reservoir, the HRMP will include a procedure for developing appropriate methods and techniques to identify Historic Properties which become accessible during periods of Project reservoir drawdown or dewatering, and a tentative schedule for conducting the surveys. Fulfilling this requirement will not cause, occasion, or prolong a period of drawdown or dewatering.

c. The Licensee, in the HRMP, will include the following procedure for taking into account effects to archaeological properties on Private Property to which the Licensee may be unable to gain access to conduct archaeological research.

(1) The Licensee, if unable to gain access to Private Property to conduct archaeological research, will notify the Wisconsin SHPO of the inability to gain access, identifying the property owners by name and address.

(2) The Licensee will provide the Wisconsin SHPO with a copy of all relevant correspondence demonstrating the Licensee's reasonable attempts to gain access for the purpose of conducting archaeological research.

(3) The Licensee will furnish the Wisconsin SHPO with a copy of the appropriate USGS topographic map showing the exact location of the Private Property.

(4) The Licensee, in the event shoreline monitoring, conducted pursuant to Part II.A.1, herein, discloses a change in an archaeological site located on Private Property to which the Licensee has been unable to gain access for conducting archaeological research, or if the Licensee learns that the ownership or control of such Private Property is transferred, will make further attempts to gain access and inform the Wisconsin SHPO of these further attempts and of their results.

3. Archaeological Properties on Non-Managed Lands Within the Project Boundary: Previously-recorded archaeological properties on lands for which no ground-disturbing activities are contemplated (hereinafter, "Non-managed Lands") will be listed as such in the HRMP.

C. In-Place Preservation At Shorelines: In general, Licensees will give priority to preserving Historic Properties in place through shoreline stabilization, in developing HRMPs, and may use shoreline stabilization for other purposes.

1. Shoreline Stabilization: Where stabilization efforts may disturb Historic Properties, the Licensee will describe or specify the type of stabilization proposed, such as placement of rip-rap or revegetation, the provisions for archaeological data recovery, if any are warranted, and a budget and a schedule for implementing the plan. If the Wisconsin SHPO does not respond within forty-five days of receiving the submission, or responds with no objections to the Licensee's plan, the Licensee will implement the plan.

2. Data Recovery Plans: Where preservation in place is deemed not to be feasible and data recovery is found to be necessary, Licensees will develop all plans for recovering archaeological data in consultation with the Wisconsin SHPO, ensure that such plans are consistent with the Secretary's Standards and generally consistent with, Treatment of Archaeological Properties (Advisory Council on Historic Preservation, 1980). Archaeological data recovery plans will, at a minimum, include the following information.

a. The Licensee will identify the property, properties, or portions of properties where data recovery is to be carried out, as well as any property, properties, or portions of properties that will be destroyed or already have been affected without the benefit of data recovery.

b. The Licensee will specify the research questions that are to be addressed through data recovery and explain their relevance and importance.

c. The Licensee will specify the means to recover, analyze, manage, and disseminate data to the professional archaeological community and the general public, and, explain the relevance of these means to the research questions; involve the interested public in the data recovery project; and, as appropriate, keep Indian tribes informed of the data recovery project and afford them the opportunity to participate.

d. The Licensee will include a schedule for implementing the data recovery plan.

e. The Licensee will include a plan for the disposition of recovered materials and records, according to Part IV.D. herein.

f. The Licensee will propose a schedule for submitting progress reports to the Wisconsin SHPO, where such reports are appropriate.

3. Implementing a Data Recovery Plan: The Licensee will submit the data recovery plan to the Wisconsin SHPO and, if the Wisconsin SHPO does not object within 30 days, implement the data recovery plan at the earliest opportunity.

4. Final Reports of Data Recovery: After a data recovery plan has been implemented, the Licensee will submit two copies of a final report detailing the results of the data recovery efforts to the Wisconsin SHPO for review and approval.

D. In-Place Preservation of Historic Hydroelectric Generating Facilities and Other Structures: Licensees will operate and maintain National Register eligible hydroelectric generating facilities (hereinafter, "Facilities") according to 36 C.F.R. Part 67, Guidelines for Rehabilitating Historic Buildings (revised 1990), and applicable National Park Service Preservation Briefs.

1. During the term of a license, the Licensee will take every reasonable precaution to preserve Facilities as Historic Properties; guarantee their integrity of design, materials, workmanship, location, setting, feeling, and association, to the extent that each of these qualities is relevant to National Register eligibility; and ensure public safety. To further these purposes, Licensees will adhere closely

to the following guidelines.

2. Specifically, Licensees will avoid destroying, demolishing, or otherwise altering their Facilities, any distinguishing qualities or characters of their Facilities, or any stylistic features or examples of skilled craftsmanship which may characterize their Facilities. Licensees will similarly avoid such effects upon their Facilities' environments within the Projects' boundaries. Licensees will avoid damage to their Facilities resulting from cleaning surfaces, and will repair rather than replace deteriorated features of their Facilities.

3. The Licensee proposing to alter its Facilities or its Facilities' environment contrary to the clear aim and intent of this Programmatic Agreement to preserve intact such Facilities and their environments, may do so only upon notice of any such proposal given to the Wisconsin SHPO and the Secretary of the Commission.

a. The Licensee will afford the Wisconsin SHPO and the Commission forty-five days, commencing on the date on which they all receive the notice of such proposal, to review the notice of such proposal, during which time the Licensee will take no actions that would foreclose the Wisconsin SHPO's and the Commission's full opportunity to object.

b. The Licensee will attach to the notice of such proposal such plans and specifications for such proposals as the Wisconsin SHPO and the Commission may require, and will respond with such further or clarified plans and specifications as the Wisconsin SHPO or the Commission may request. Required plans and specifications will include a description of the proposed undertaking, including relevant photographs and other needed documentation; a description of alternatives and mitigation measures, both considered and proposed; and a project plan and schedule.

c. If, after this forty-five days, there is no objection, the Licensee may implement the plans and specifications. Any party desiring to object within forty-five days will do so according to Part V.B, herein.

4. In cases of emergency, Licensees will respond in a manner ensuring public safety, and will notify the Wisconsin SHPO as soon as circumstances permit, but not more than seven days following the emergency, to explain any major modifications to Historic Properties required to cope with the emergency.

5. Licensees will not be required to seek the

Wisconsin SHPO's comments for completing routine repair and replacement in kind at their Facilities. Such routine repair and replacement in kind includes concrete repair work, maintenance and overhaul of existing generating and hydraulic equipment (except for equipment identified in the Form as a contributing element to its Facilities' National Register eligibility), maintenance of existing buildings and structures, dike repair and maintenance, maintenance and improvement of electrical systems, replacement of substation and transmission components, compliance with Commission mandated safety improvements not requiring structural modifications, development and maintenance of exterior public recreation components not requiring structure modifications, and placement and maintenance of public safety devices and signs.

6. Facilities that, at the time of licensing, are not National Register eligible, but become eligible, will become subject to the stipulations of this Programmatic Agreement as of the time they become eligible.

E. Public Interpretation: In their HRMPs, Licensees will propose, in detail, ways to interpret Historic Properties for the benefit of the public.

III. COMPLIANCE MONITORING, REPORTS, AND PUBLIC INVOLVEMENT

The purpose of this Part is to ensure compliance with the stipulations of this Programmatic Agreement through reporting.

A. Compliance Monitoring: The Commission and the Wisconsin SHPO have the right to monitor activities carried out pursuant to this Programmatic Agreement, and the Council will review such activities if requested. Licensees will cooperate with the Commission and the SHPO in carrying out this responsibility.

B. Annual Reports: Licensees, on January 31 of every year, will submit annual reports to the Wisconsin SHPO and the Commission outlining all activities associated with implementing the HRMP and this Programmatic Agreement, and undertaken in the preceding year and planned during the ensuing year.

C. Archaeological Report Dissemination: Licensees will submit all archaeological reports prepared according to the terms of this Programmatic Agreement to the Commission and the Wisconsin SHPO within six months of completing the report. Upon receiving written request, the Licensee may furnish copies of reports to other interested parties. The Licensee will ensure that precise locational data is withheld if it appears that its release might jeopardize Historic Properties (See National

Register Bulletin No. 29).

D. Public Involvement: Licensees will consult with the Wisconsin SHPO and the Commission to determine whether interested persons, as defined at 36 C.F.R. Part 800, at Section 800.1(c)(2), should be informed of effects to Historic Properties.

IV. TREATMENT OF HUMAN REMAINS AND GRAVE-ASSOCIATED ARTIFACTS; CURATION OF ARCHAEOLOGICAL COLLECTIONS, NOTES, MAPS, AND OTHER DOCUMENTATION; AND COMPLIANCE WITH THE NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT

Licensees will ensure that the following stipulations are implemented.

A. Tribal Reservations and Lands of the United States: Licensees will ensure that all human remains and other cultural items [7] encountered on lands embraced within the exterior boundaries of Indian reservations or in dependent Indian communities (hereinafter, "Tribal Lands), or lands controlled or owned by the United States (hereinafter, "U.S. Lands") are treated in accordance with the Native American Graves Protection and Repatriation Act (hereinafter, "NAGPRA"), 25 U.S.C. Section 3001, et seq.

1. NAGPRA creates rights for certain parties that go beyond the right merely to be consulted, set forth in the Act, that are pertinent to the inadvertent discovery, intentional removal, ownership, and repatriation of human remains and other cultural items recovered from Tribal and U.S. Lands. Thus archaeological data recovery and similar mitigative actions developed pursuant to the Act must also meet NAGPRA requirements when they occur on Tribal or U.S. Lands.

2. Licensees using Tribal or U.S. Lands for purposes

---

[7] NAGPRA defines "cultural items" as (a) human remains,(b) funerary objects "reasonably believed" to have been associated with human remains or, "by a preponderance of the evidence," a specific burial site, (c) sacred religious objects, and (d) cultural patrimony, defined as material remains of "historical, traditional, or cultural importance to the Native American group or culture itself ...." "Unassociated" funerary objects were, according to the Senate Select Committee report accompanying NAGPRA, specifically excluded from its protections.

requiring the issue of a license, will, within one (1) year of such a license issuing, prior to and apart from the discovery of any human remains or other cultural items, identify the following items in consultation with the Wisconsin SHPO.

a. the specific Native American organizations with a proprietary interest in any human remains and other cultural items that may be encountered and recovered,

b. the kinds of artifacts that will be considered to be cultural items as defined in NAGPRA, including associated and unassociated funerary objects, sacred objects, or objects of cultural patrimony,

c. the kinds of analysis and curation to which the material will be subjected, along with a schedule for any disposition of the material, and

d. a specific course of action to be taken if human remains and other cultural items are encountered unexpectedly during project operation or project development, including recreational development.

3. Before excavating or removing discovered human remains or other cultural items from U.S. Lands, the Licensee will make every reasonable effort to protect the property and consult with the appropriate Native American groups. The Licensee will secure the consent of the appropriate Native American groups before removing any human remains or other cultural items from Tribal Lands.

B. Consistency With NAGPRA's Purpose: Licensees will ensure that any action taken is consistent with NAGPRA's purpose of protecting Native American's interred human remains and other cultural items.

C. Other Than Tribal and U.S. Lands: Licensees will ensure that all human remains and grave-associated artifacts encountered on lands that are neither Tribal nor U.S. Lands are treated according to Section 157.70, Wisconsin Statutes, with consideration given to the Council's policy on the treatment of human remains.

D. Curation of Archaeological Collections, Notes, Maps, and Other Documentation: Licensees will ensure that, except as otherwise required above, all artifacts, notes, records, reports, maps, and any other type of documentation that are, respectively, recovered, written, made, drawn, or otherwise generated according to this Programmatic Agreement, are curated in the State of

Wisconsin, unless the Michigan SHPO specifically [redacted] items pertaining to Michigan be delivered [redacted] for curation, in a facility that meets [redacted] C.F.R. Part 79, insofar as this preference [redacted] consistent with the rights of Private [redacted]

V. DISPUTE RESOLUTION

A. Foundational Considerations: [redacted] statutorily mandated to ensure [redacted] Historic Preservation Act and the Public [redacted], notwithstanding this or any other Programmatic [redacted]

1. In all matters arising [redacted] Agreement, the Commission reserves to [redacted] authority to determine, consistent with [redacted] regulations, the means of taking into [redacted] undertakings on Historic Properties, and, [redacted] regulations, the best adapted use of a [redacted]

2. Neither this Programmatic Agreement [redacted] of it will be interpreted to give any other party [redacted] authority.

3. While a Licensee may implement measures [redacted] findings, where a consensus with the SHPO for such [redacted] findings is found to exist, a Licensee's rights to [redacted] Commission's resolution of any matter disputed between any other Party to this Programmatic Agreement will not [redacted]

B. Procedures: If the SHPO, a Licensee, Licensees, or Council objects to any action or any failure to act [redacted] of any Party to this Programmatic Agreement, any [redacted] Licensees within 45 days of such action or failure, the objecting Party, Licensee, or Licensees will file [redacted] objections with the Commission.

1. The Commission will notify the [redacted] interested parties, Licensees, or Licensees of the [redacted] objection.

2. The Commission may initiate a [redacted] consultation to resolve any of its objections to [redacted] failure to act on the part of any Party, Licensee [redacted]

C. Council Comments: If the Commission determines [redacted] matter cannot be resolved by consultation, the Commission [redacted] request the Council's further comments pursuant to [redacted] Part 800, at Section 800.6(b).

1. Any Council comment provided in response to such a request will be taken into account by the Commission in accordance with 36 C.F.R. Part 800, at Section 800.6(c)(2), with reference to the subject of dispute.

2. After consultation and review of written responses the Commission will issue a decision on the matter.

D. Status of Actions Not In Dispute: The Commission's responsibility to carry out all actions under this Programmatic Agreement that are not the subject of dispute will remain unchanged.

VI. EXECUTING, AMENDING, AND TERMINATING THIS PROGRAMMATIC AGREEMENT

This Programmatic Agreement will continue in full force and effect in its present form until it is amended or terminated.

A. Execution: Execution and implementation of this Programmatic Agreement evidences conclusively that the Commission has satisfied its Section 106 responsibilities for all individual Projects in the State of Wisconsin or the States of Wisconsin and Michigan issued new or amended licenses after the date whereon this Programmatic Agreement is executed.

B. Amending This Programmatic Agreement

1. The Commission, the Wisconsin SHPO, the Michigan SHPO, the Council, or any interested party may request an amendment to this Programmatic Agreement, whereupon the Parties will consult in accordance with 36 C.F.R. Part 800, at Section 800.13.

2. This Programmatic Agreement will be amended only upon the agreement of the Commission, the Wisconsin SHPO, the Michigan SHPO, and the Council.

3. Historic Properties affected by a new license issuing to Wisconsin Power & Light for its continued operation of the Shawano Project, Project No. 710, in Shawano and Menominee Counties, are protected under a Programmatic Agreement for that project. Some of those Historic Properties are on lands belonging to the Menominee Indian Tribe of Wisconsin. If the Programmatic Agreement for the Shawano Project is terminated or amended with the result that the Shawano Project is administered under this Programmatic Agreement, the Parties will consult together and with the Menominee, both directly and through counsel, to amend this Programmatic Agreement sufficient to

afford their interests in Historic Properties located on their lands protection equal or superior to that stipulated in the Programmatic Agreement for the Shawano Project alone.

C. Terminating This Programmatic Agreement: The Commission, the Wisconsin SHPO, the Michigan SHPO, or the Council may terminate this Programmatic Agreement by giving notice to the Parties at least thirty days before the desired termination date, provided that the Parties will have consulted in good faith before notice is given to avoid termination by amendment or by other actions.

FEDERAL ENERGY REGULATORY COMMISSION

By _____ Date 12/1/93
Fred E. Springer, Director
Office of Hydropower Licensing

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By _____ Date 12/30/93
Robert D. Bush, Ph.D., Executive Director

STATE HISTORICAL SOCIETY OF WISCONSIN

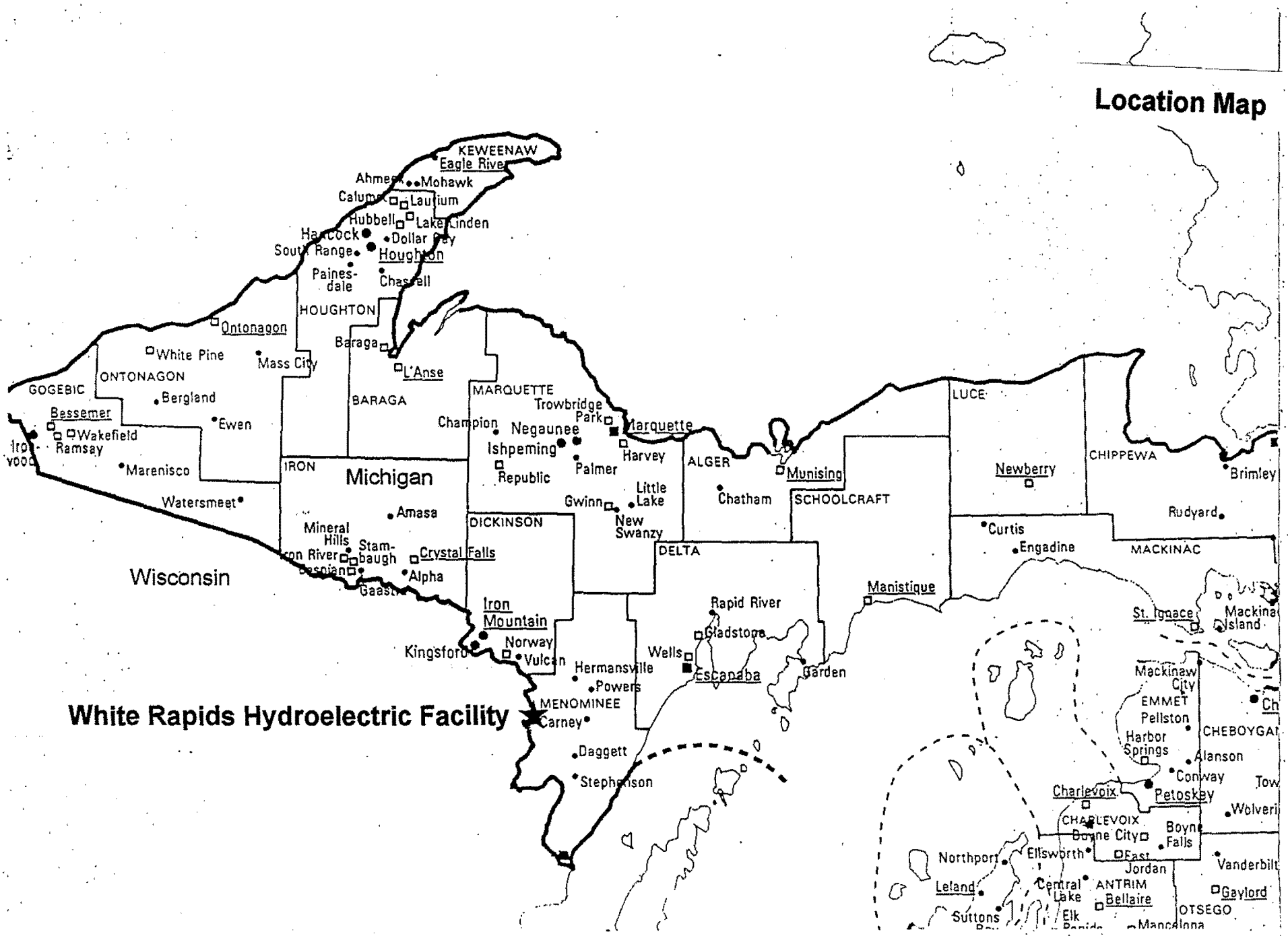
By _____ Date 12/16/93
Jeff Dean, State Historic Preservation Officer

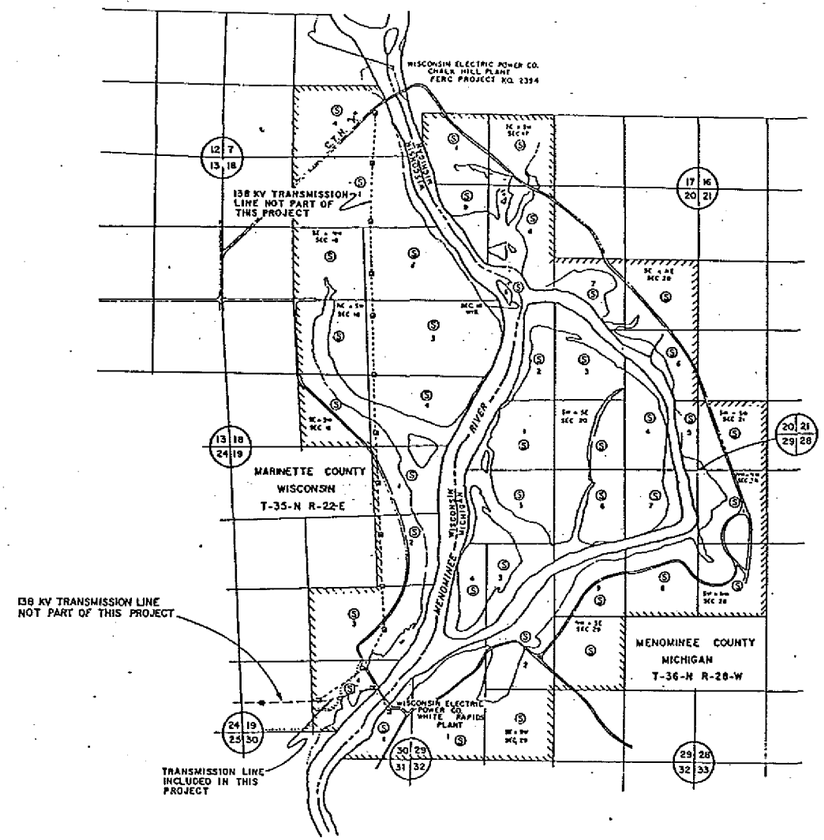
MICHIGAN DEPARTMENT OF STATE, BUREAU OF HISTORY

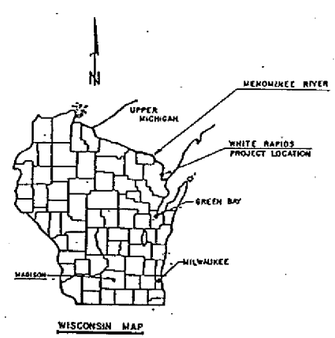
By _____ Date 12-20-93
Dr. Kathryn Eckert, State Historic Preservation Officer

Appendix B. Project Maps

- *Location Map*
- *Project Boundary and Area of Potential Effects Map*
- *Archaeological Properties Location Map*
- *Historic Properties Location Map*


Location Map
KEWEENAW
Eagle River
Ahmeek
Mohawk
Calumet
Laurium
Hubbell
Lake Linden
Hancock
Dollar Bay
South Range
Houghton
Painesdale
Chassell
HOUGHTON
Ontonagon
White Pine
Mass City
Baraga
L'Anse
ONTONAGON
GOGEBIC
Bergland
Bessemer
Wakefield
Ramsay
Ewen
Marenisco
Watersmeet
BARAGA
IRON
Michigan
MARQUETTE
Trowbridge Park
Champion
Negaunee
Marquette
Ishpeming
Harvey
Palmer
Republic
ALGER
Munising
LUCE
CHIPPEWA
Newberry
Brimley
Rudyard
Chatham
SCHOOLCRAFT
Gwinn
Little Lake
New Swanzy
Amasa
Mineral Hills
Stambaugh
Crystal Falls
Alpha
Gaastra
DICKINSON
DELTA
Curtis
Engadine
MACKINAC
Manistique
Wisconsin
Iron Mountain
Kingsford
Norway
Vulcan
Rapid River
Gladstone
Wells
Escanaba
Garden
Hermansville
Powers
MENOMINEE
Carney
White Rapids Hydroelectric Facility
Daggett
Stephenson
St. Ignace
Mackinac Island
Mackinaw City
EMMET
Pellston
Harbor Springs
CHEBOYGAN
Alanson
Conway
Charlevoix
Petoskey
CHARLEVOIX
Boyne City
Boyne Falls
East Jordan
Northport
Ellsworth
Leland
Central Lake
ANTRIM
Bellaire
Suttons
Elk
OTSEGO
Gaylord
Vanderbilt





WISCONSIN MAP

LEGEND

Project Boundary/APE

(S) Surface Rights Owned in Fee

LEGEND

- ⊠ STEEL TOWERS
- TRANSMISSION LINE
- PROJECT BOUNDARY
- (S) SURFACE RIGHTS OWNED IN FEE

SCALE IN FEET

0 1000 2000 3000 4000 5000 6000

1" = 1000 FEET

NOTE:
FOR TOWER SPANS REFER TO DWG. BP-638-E, DWG. 8-2463-E SHEETS 33-9, 33-10, 33-11. LOCATION OF TOWERS FROM AERIAL PHOTO BIA-3-34

EXHIBIT G MAP 1 OF 1

WISCONSIN ELECTRIC POWER CO. MILWAUKEE, WISCONSIN

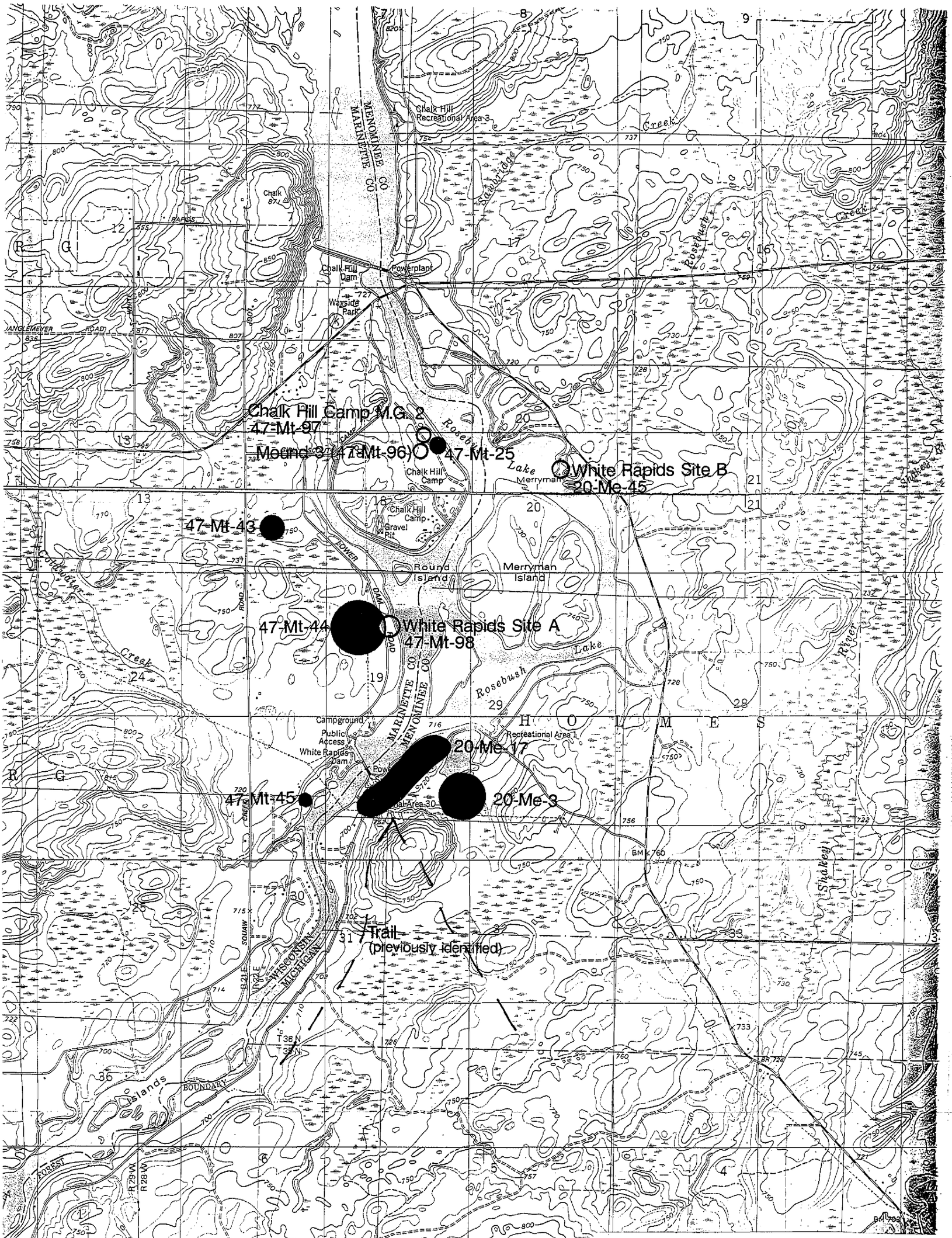
WHITE RAPIDS HYDROELECTRIC PROJECT
F.E.R.C. PROJECT No. 2357
MENOMINEE RIVER
MARINETTE COUNTY, WISCONSIN
MENOMINEE COUNTY, MICHIGAN

PROJECT BOUNDARY

SCALE: AS SHOWN
DATE: AUGUST, 1991

MEAD & HUNT INC.
Consulting Engineers
Madison, Wisconsin

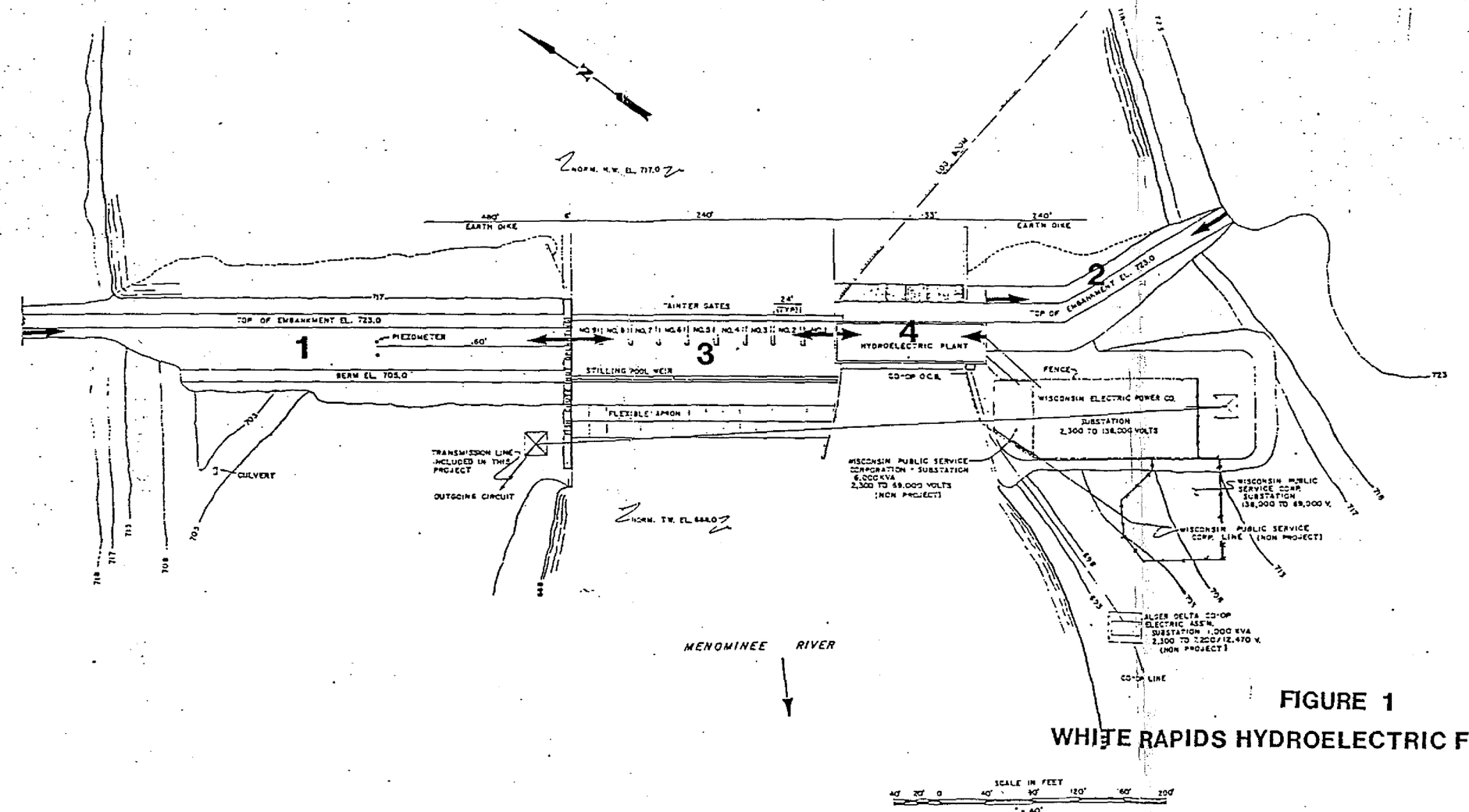
Project Boundary/ APE Map



Archaeological Properties Location Map

Legend

- Previously Identified Property
- Newly Identified Property



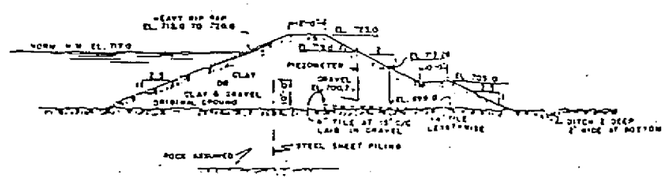


FIGURE 1

WHITE RAPIDS HYDROELECTRIC FACILITY

Historic Properties Location Map

Legend

1. & 2. Earth Dikes
3. Spillway & Gates
4. Powerhouse

Appendix D. *The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*

The Secretary of the Interior's

Standards for Rehabilitation

and Guidelines for Rehabilitating Historic Buildings

(Revised 1990)

U.S. Department of the Interior
National Park Service
Preservation Assistance Division
Washington, D.C.

Reprinted by:

The Division of Historic Preservation
State Historical Society of Wisconsin
816 State Street
Madison, Wisconsin 53706

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

The following Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.

6. Deteriorated historic features shall be repaired, rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities, and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

CONTENTS

INTRODUCTION

The Secretary of the Interior is responsible for establishing standards for all program under Departmental authority and for advising Federal agencies on the preservation of historic properties listed or eligible for listing in the National Register of Historic Places. In partial fulfillment of this responsibility, the Secretary of the Interior's Standards for Historic Preservation Projects have been developed to guide work undertaken on historic buildings—there are separate standards for acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction. **The Standards for Rehabilitation** (codified in 36 CFR 67) comprise that section of the overall preservation project standards and addresses the most prevalent treatment. "Rehabilitation" is defined as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."

Initially developed by the Secretary of the Interior to determine the appropriateness of proposed project work on registered properties within the Historic Preservation Fund grant-in-aid program, the **Standards for Rehabilitation** have been widely used over the years—particularly to determine if a rehabilitation qualifies as a Certified Rehabilitation for Federal tax purposes. In addition, the Standards have guided Federal agencies in carrying out their historic preservation responsibilities for properties in Federal ownership or control; and State and local officials in reviewing both Federal and nonfederal rehabilitation proposals. They have also been adopted by historic district and planning commissions across the country.

The intent of the Standards is to assist the long-term preservation of a property's significance through the preservation of historic materials and features. The Standards pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and interior of the buildings. They also encompass related landscape features and the building's site and environment, as well as attached, adjacent, or related new construction. To be certified for Federal tax purposes, a rehabilitation project must be determined by the Secretary to be consistent with the historic character of the structure(s), and where applicable, the district in which it is located.

As stated in the definition, the treatment "rehabilitation" assumes that at least some repair or alteration of the historic building will be needed in order to provide for an efficient contemporary use; however, these repairs and alteration must not damage or destroy materials, features or finishes that are important in defining the building's historic character. For example, certain treatments—if improperly applied—may cause or accelerate physical deterioration of historic building. This can include using improper repointing or exterior masonry cleaning techniques, or introducing insulation that damages historic fabric. In almost all of these situations, use of these materials and treatments will result in a project that does not meet the Standards. Similarly, exterior additions that duplicate the form, material, and detailing of the structure to the extent that they compromise the historic character of the structure will fail to meet the Standards.

Technical Guidance Publications

The National Park Service, U.S. Department of the Interior, conducts a variety of activities to guide Federal agencies, States, and the general public in historic preservation project work. In addition to establishing standards and guidelines, the Service develops, publishes, and distributes technical information on appropriate preservation treatments, including Preservation Briefs, case studies, and Preservation Tech Notes.

A Catalog of Historic Preservation Publications with stock numbers, prices, and ordering information may be obtained by writing: Preservation Assistance Division, Technical Preservation Services, P.O. Box 37127, Washington, D.C. 20013-7127.

The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards were initially written in 1976 by W. Brown Morton III and Gary L. Hume. The Guidelines for Rehabilitating Historic Buildings were revised and expanded in 1983 by Gary L. Hume and Kay D. Weeks. The Standards for Rehabilitation were revised in 1990 following a public commenting period. It should be noted that the minor revisions to the Standards for Rehabilitation will not affect their application so that a project which was previously acceptable would continue to be acceptable.

GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

The Guidelines were initially developed in 1977 to help property owners, developers, and Federal managers apply the Secretary of the Interior's "Standards for Rehabilitation" during the project planning stage by providing general design and technical recommendations. Unlike the Standards, the Guidelines are *not* codified as program requirements. Together with the "Standards for Rehabilitation" they provide a model process for owners, developers, and Federal agency managers to follow.

It should be noted at the outset that the Guidelines are intended to assist in applying the Standards to projects generally; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. For example, they cannot tell an owner or developer which features of their own historic building are important in defining the historic character and must be preserved—although examples are provided in each section—or which features could be altered, if necessary, for the new use. This kind of careful case-by-case decisionmaking is best accomplished by seeking assistance from qualified historic preservation professionals in the planning stage of the project. Such professionals include architects, architectural historians, historians, archeologists, and others who are skilled in the preservation, rehabilitation, and restoration of historic properties.

The Guidelines pertain to historic buildings of all sizes, materials, occupancy, and construction types; and apply to interior and exterior work as well as new exterior additions. Those approaches, treatments, and techniques that are consistent with the Secretary of the Interior's "Standards for Rehabilitation" are listed in the "**Recommended**" column on the left; those approaches, treatments, and techniques which could adversely affect a building's historic character are listed in the "**Not Recommended**" column on the right.

To provide clear and consistent guidance for owners, developers, and federal agency managers to follow, the "Recommended" courses of action in each section are listed in order of historic preservation concerns so that a rehabilitation project may be successfully planned and completed—one that, first, assures the preservation of a building's important or "character-defining" architectural materials and features and, second, makes possible an efficient contemporary use. Rehabilitation guidance in each section begins with protection and maintenance, that work which should be maximized in every project to enhance overall preservation goals. Next, where some deterioration is present, repair of the building's historic materials and features is recommended. Finally, when deterioration is so extensive that repair is not possible, the most problematic area of work is considered: replacement of historic materials and features with new materials.

To further guide the owner and developer in planning a successful rehabilitation project, those complex design issues dealing with new use requirements such as alterations and additions are highlighted at the end of each section to underscore the need for particular sensitivity in these areas.

Identify, Retain, and Preserve

The guidance that is basic to the treatment of all historic buildings—***identifying, retaining, and preserving*** the form and detailing of those architectural materials and features that are important in *defining the historic character*—is always listed first in the "Recommended" column. The parallel "Not Recommended" column lists the types of actions that are most apt to cause the diminution or even loss of the building's historic character. It should be remembered, however, that such loss of character is just as often caused by the cumulative effect of a series of actions that would seem to be minor interventions. Thus, the guidance in *all* of the "Not Recommended" columns must be viewed in that larger context, e.g., for the total impact on a historic building.

Protect and Maintain

After identifying those materials and features that are important and must be retained in the process of rehabilitation work, then ***protecting and maintaining*** them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. For example, protection includes the maintenance of historic material through treatments such as rust removal, caulking, limited paint removal and re-application of protective coatings; the cyclical cleaning of roof gutter systems; or installation of fencing, protective plywood, alarm systems and other temporary protective measures. Although a historic building will usually require more extensive work, an overall evaluation of its physical condition should always begin at this level.

Repair

Next, when the physical condition of character-defining materials and features warrants additional work ***repairing*** is recommended. Guidance for the repair of historic materials such as masonry, wood, and architectural metals again begins with the least degree of intervention possible such as patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading them according to recognized preservation methods. Repairing also includes the limited replacement in kind—or with compatible substitute material—of extensively deteriorated or missing *parts* of features when there are surviving prototypes (for example, brackets, dentils, steps, plaster, or portions of slate or tile roofing). Although using the same kind of material is always the preferred option, substitute material is acceptable if the form and design as well as the substitute material itself convey the visual appearance of the remaining parts of the feature and finish.

Replace

Following repair in the hierarchy, guidance is provided for ***replacing*** an entire character-defining feature with new material because the level of deterioration or damage of materials precludes repair (for example, an exterior cornice; an interior staircase; or a complete porch or storefront). If the essential form and detailing are still evident so that the physical evidence can be used to re-establish the feature as an integral part of the rehabilitation project, then its replacement is appropriate. Like the guidance for repair, the preferred option is always replacement of the entire feature in kind, that is, with the same material. Because this approach may not always be technically or economically feasible, provisions are made to consider the use of a compatible substitute material.

It should be noted that, while the National Park Service guidelines recommend the replacement of an entire character-defining feature under certain well-defined circumstances, they *never* recommend removal and replacement with new material of a feature that—although damaged or deteriorated—could reasonably be repaired and thus preserved.

Design for Missing Historic Features

When an entire interior or exterior feature is missing (for example, an entrance, or cast iron facade; or a principal staircase), it no longer plays a role in physically defining the historic character of the building unless it can be accurately recovered in form and detailing through the proc-

ess of carefully documenting the historical appearance. Where an important architectural feature is missing, its recovery is always recommended in the guidelines as the *first* or preferred, course of action. Thus, if adequate historical, pictorial, and physical documentation exists so that the feature may be accurately reproduced, and if it is desireable to re-establish the feature as part of the building's historical appearance, then designing and constructing a new feature based on such information is appropriate. However, a *second* acceptable option for the replacement feature is a new design that is compatible with the remaining character-defining features of the historic building. The new design should always take into account the size, scale, and material of the historic building itself and, most importantly, should be clearly differentiated so that a false historical appearance is not created.

Alterations/Additions to Historic Buildings

Some exterior and interior alterations to the historic building are generally needed to assure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes. Alterations may include providing additional parking space on an existing historic building site; cutting new entrances or windows on secondary elevations; inserting an additional floor; installing an entirely new mechanical system; or creating an atrium or light well. Alteration may also include the selective removal of buildings or other features of the environment or building site that are intrusive and therefore detract from the overall historic character.

The construction of an exterior addition to a historic building may seem to be essential for the new use, but it is emphasized in the guidelines that such new additions should be avoided, if possible, and considered *only* after it is determined that those needs cannot be met by altering secondary, i.e., non character-defining interior spaces. If, after a thorough evaluation of interior solutions, an exterior addition is still judged to be the only viable alternative, it should be designed and constructed to be clearly differentiated from the historic building and so that the character-defining features are not radically changed, obscured, damaged, or destroyed.

Additions to historic buildings are referenced within specific sections of the guidelines such as Site, Roof, Structural Systems, etc., but are also considered in more detail in a separate section, NEW ADDITIONS TO HISTORIC BUILDINGS.

Health and Safety Code Requirements; Energy Retrofitting

These sections of the rehabilitation guidance address work done to meet health and safety code requirements (for example, providing barrier-free access to historic buildings); or retrofitting measures to conserve energy (for example, installing solar collectors in an unobtrusive location on the site). Although this work is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of protecting or repairing character-defining features; rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to radically change, obscure, damage, or destroy character-defining materials or features in the process of rehabilitation work to meet code and energy requirements.

Specific information on rehabilitation and preservation technology may be obtained by writing to the National Park Service, at the addresses listed below:

Preservation Assistance Division
National Park Service
P.O. Box 37127
Washington, D.C. 20013-7127

National Historic Preservation
Programs
Western Regional Office
National Park Service
450 Golden Gate Ave.
Box 36063
San Francisco, CA 94102

Division of Cultural Resources
Rocky Mountain Regional Office
National Park Service
655 Parfet St.
P.O. Box 25287
Denver, CO 80225

Preservation Services Division
Southeast Regional Office
National Park Service
75 Spring St. SW., Room 1140
Atlanta, GA 30303

Office of Cultural Programs
Mid-Atlantic Regional Office
National Park Service
Second and Chestnut Streets
Philadelphia, PA 19106

Cultural Resources Division
Alaska Regional Office
National Park Service
2525 Gambell St.
Anchorage, AK 99503

BUILDING EXTERIOR

Masonry: Brick, stone, terra cotta, concrete, adobe, stucco and mortar

Masonry features (such as brick cornices and door pediments, stone window architraves, terra cotta brackets and railings) as well as masonry surfaces (modelling, tooling, bonding patterns, joint size, and color) may be important in defining the historic character of the building. It should be noted that while masonry is among the most durable of historic building materials, it is also the most susceptible to damage by improper maintenance or repair techniques and by harsh or abrasive cleaning methods. Most preservation guidance on masonry thus focuses on such concerns as cleaning and the process of repointing.

Recommended	*Not Recommended*
Identifying, retaining, and preserving masonry features that are important in defining the overall historic character of the building such as walls, brackets, railings, cornices, window architraves, door pediments, steps, and columns; and joint and unit size, tooling and bonding patterns, coatings, and color.	Removing or radically changing masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.
	Replacing or rebuilding a major portion of exterior masonry walls that could be repaired so that, as a result, the building is no longer historic and is essentially new construction.
	Applying paint or other coatings such as stucco to masonry that has been historically unpainted or uncoated to create a new appearance.
	Removing paint from historically painted masonry.
	Radically changing the type of paint or coating or its color.
Protecting and maintaining masonry by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.	Failing to evaluate and treat the various causes of mortar joint deterioration such as leaking roofs or gutters, differential settlement of the building, capillary action, or extreme weather exposure.
Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.	Cleaning masonry surfaces when they are not heavily soiled to create a new appearance, thus needlessly introducing chemicals or moisture into historic materials.
Carrying out masonry surface cleaning tests after it has been determined that such cleaning is necessary. Tests should be observed over a sufficient period of time so that both the immediate effects and the long range effects are known to enable selection of the gentlest method possible.	Cleaning masonry surfaces without testing or without sufficient time for the testing results to be of value.
Cleaning masonry surfaces with the gentlest method possible, such as low pressure water and detergents, using natural bristle brushes.	Sandblasting brick or stone surfaces using dry or wet grit or other abrasives. These methods of cleaning permanently erode the surface of the material and accelerate deterioration.
	Using a cleaning method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures.
	Cleaning with chemical products that will damage masonry, such as using acid on limestone or marble, or leaving chemicals on masonry surfaces.
	Applying high pressure water cleaning methods that will damage historic masonry and the mortar joints.
Inspecting painted masonry surfaces to determine whether repainting is necessary.	Removing paint that is firmly adhering to, and thus protecting, masonry surfaces.
Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., handscraping) prior to repainting.	Using methods of removing paint which are destructive to masonry, such as sandblasting, application of caustic solutions, or high pressure waterblasting.
Applying compatible paint coating systems following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting masonry.
Repainting with colors that are historically appropriate to the building and district.	Using new paint colors that are inappropriate to the historic building and district.

Recommended	*Not Recommended*
Evaluating the overall condition of the masonry to determine whether more than protection and maintenance are required, that is, if repairs to the masonry features will be necessary.	Failing to undertake adequate measures to assure the preservation of masonry features.
Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration such as disintegrating mortar, cracks in mortar joints, loose bricks, damp walls, or damaged plasterwork.	Removing nondeteriorated mortar from sound joints, then repointing the entire building to achieve a uniform appearance.
Removing deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry.	Using electric saws and hammers rather than hand tools to remove deteriorated mortar from joints prior to repointing.
Duplicating old mortar in strength, composition, color, and texture.	Repointing with mortar of high portland cement content (unless it is the content of the historic mortar). This can often create a bond that is stronger than the historic material and can cause damage as a result of the differing coefficient of expansion and the differing porosity of the material and the mortar.
	Repointing with a synthetic caulking compound.
	Using a "scrub" coating technique to repoint instead of traditional repointing methods.
Duplicating old mortar joints in width and in joint profile.	Changing the width or joint profile when repointing.
Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.	Removing sound stucco; or repairing with new stucco that is stronger than the historic material or does not convey the same visual appearance.
Using mud plaster as a surface coating over unfired, unstabilized adobe because the mud plaster will bond to the adobe.	Applying cement stucco to unfired, unstabilized adobe. Because the cement stucco will not bond properly, moisture can become entrapped between materials, resulting in accelerated deterioration of the adobe.
Repairing masonry features by patching, piecing-in, or consolidating the masonry using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of masonry features when there are surviving prototypes such as terra-cotta brackets or stone balusters.	**Replacing an entire masonry feature such as a cornice or balustrade when repair of the masonry and limited replacement of deteriorated or missing parts are appropriate.**
	Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the masonry feature or that is physically or chemically incompatible.
Applying new or non-historic surface treatments such as water-repellent coatings to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.	**Applying waterproof, water-repellent, or non-historic coatings such as stucco to masonry as a substitute for repointing and masonry repairs. Coatings are frequently unnecessary, expensive, and may change the appearance of historic masonry as well as accelerate its deterioration.**
Replacing in kind an entire masonry feature that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. Examples can include large sections of a wall, a cornice, balustrade, column, or stairway. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	**Removing a masonry feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.**

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing a new masonry feature such as steps or a door pediment when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating a false historical appearance because the replaced masonry feature is based on insufficient historical, pictorial, and physical documentation.
	Introducing a new masonry feature that is incompatible in size, scale, material and color.

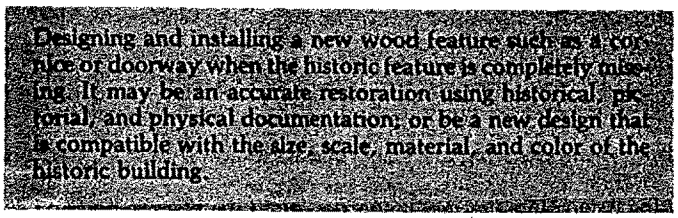
Wood: Clapboard, weatherboard, shingles, and other wooden siding and decorative elements	Because it can be easily shaped by sawing, planing, carving, and gouging, wood is the most commonly used material for architectural features such as clapboards, cornices, brackets, entablatures, shutters, columns and balustrades. These wooden features—both functional and decorative—may be important in defining the historic character of the building and thus their retention, protection, and repair are of particular importance in rehabilitation projects.

Recommended	*Not Recommended*
Identifying, retaining, and preserving wood features that are important in defining the overall historic character of the building such as siding, cornices, brackets, window architraves, and doorway pediments; and their paints, finishes, and colors.	Removing or radically changing wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.
	Removing a major portion of the historic wood from a facade instead of repairing or replacing only the deteriorated wood, then reconstructing the facade with new material in order to achieve a uniform or "improved" appearance.
	Radically changing the type of finish or its color or accent scheme so that the historic character of the exterior is diminished.
	Stripping historically painted surfaces to bare wood, then applying clear finishes or stains in order to create a "natural look."
	Stripping paint or varnish to bare wood rather than repairing or reapplying a special finish, i.e., a grained finish to an exterior wood feature such as a front door.
Protecting and maintaining wood features by providing proper drainage so that water is not allowed to stand on flat, horizontal surfaces or accumulate in decorative features.	Failing to identify, evaluate, and treat the causes of wood deterioration, including faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungus infestation.
Applying chemical preservatives to wood features such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted.	Using chemical preservatives such as creosote which can change the appearance of wood features unless they were used historically.
Retaining coatings such as paint that help protect the wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate protective coatings.	Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering.
Inspecting painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.	Removing paint that is firmly adhering to, and thus, protecting wood surfaces.
Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (handscraping and handsanding), then repainting.	Using destructive paint removal methods such as a propane or butane torches, sandblasting or waterblasting. These methods can irreversibly damage historic woodwork.
Using with care electric hot-air guns on decorative wood features and electric heat plates on flat wood surfaces when paint is so deteriorated that total removal is necessary prior to repainting.	Using thermal devices improperly so that the historic woodwork is scorched.
Using chemical strippers primarily to supplement other methods such as handscraping, handsanding and the above-recommended thermal devices. Detachable wooden elements such as shutters, doors, and columns may—with the proper safeguards—be chemically dip-stripped.	Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere. Allowing detachable wood features to soak too long in a caustic solution so that the wood grain is raised and the surface roughened.
Applying compatible paint coating systems following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting exterior woodwork.
Repainting with colors that are appropriate to the historic building and district.	Using new colors that are inappropriate to the historic building or district.

Recommended	Not Recommended
Evaluating the overall condition of the wood to determine whether more than protection and maintenance are required, that is, if repairs to wood features will be necessary.	Failing to undertake adequate measures to assure the preservation of wood features.
Repairing wood features by patching, piecing-in, consolidating, or otherwise reinforcing the wood using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features where there are surviving prototypes such as brackets, moldings, or sections of siding.	Replacing an entire wood feature such as a cornice or wall when repair of the wood and limited replacement of deteriorated or missing parts are appropriate. Using substitute materials for the replacement part that does not convey the visual appearance of the surviving parts of the wood feature or that is physically or chemically incompatible.
Replacing in kind an entire wood feature that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. Examples of wood features include a cornice, entablature or balustrade. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing an entire wood feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

The following work is highlighted because it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features



Designing and installing a new wood feature such as a cornice or doorway when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

Recommended	Not Recommended
	Creating a false historic appearance because the replaced wood feature is based on insufficient historical, pictorial, and physical documentation. Introducing a new wood feature that is incompatible in size, scale, material, and color.

Architectural Metals: Cast iron, steel, pressed tin, copper, aluminum, and zinc

Architectural metal features—such as cast-iron facades, porches, and steps; sheet metal cornices, roofs, roof cresting and storefronts; and cast or rolled metal doors, window sash, entablatures, and hardware—are often highly decorative and may be important in defining the overall historic character of the building. Their retention, protection, and repair should be a prime consideration in rehabilitation projects.

Recommended	*Not Recommended*
Identifying, retaining, and preserving architectural metal features such as columns, capitals, window hoods, or stairways that are important in defining the overall historic character of the building; and their finishes and colors.	Removing or radically changing architectural metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Removing a major portion of the historic architectural metal from a facade instead of repairing or replacing only the deteriorated metal, then reconstructing the facade with new material in order to create a uniform, or "improved" appearance. Radically changing the type of finish or its historical color or accent scheme.
Protecting and maintaining architectural metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved, decorative features.	Failing to identify, evaluate, and treat the causes of corrosion, such as moisture from leaking roofs or gutters. Placing incompatible metals together without providing a reliable separation material. Such incompatibility can result in galvanic corrosion of the less noble metal, e.g., copper will corrode cast iron, steel, tin, and aluminum.
Cleaning architectural metals, when necessary, to remove corrosion prior to repainting or applying other appropriate protective coatings.	Exposing metals which were intended to be protected from the environment. Applying paint or other coatings to metals such as copper, bronze, or stainless steel that were meant to be exposed.

Recommended	*Not Recommended*
Identifying the particular type of metal prior to any cleaning procedure and then testing to assure that the gentlest cleaning method possible is selected or determining that cleaning is inappropriate for the particular metal.	Using cleaning methods which alter or damage the historic color, texture, and finish of the metal; or cleaning when it is inappropriate for the metal.
	Removing the patina of historic metal. The patina may be a protective coating on some metals, such as bronze or copper, as well as a significant historic finish.
Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with appropriate chemical methods because their finishes can be easily abraded by blasting methods.	Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with grit blasting which will abrade the surface of the metal.
Using the gentlest cleaning methods for cast iron, wrought iron, and steel—hard metals—in order to remove paint buildup and corrosion. If handscraping and wire brushing have proven ineffective, low pressure dry grit blasting may be used as long as it does not abrade or damage the surface.	Failing to employ gentler methods prior to abrasively cleaning cast iron, wrought iron or steel; or using high pressure grit blasting.
Applying appropriate paint or other coating systems after cleaning in order to decrease the corrosion rate of metals or alloys.	Failing to re-apply protective coating systems to metals or alloys that require them after cleaning so that accelerated corrosion occurs.
Repainting with colors that are appropriate to the historic building or district.	Using new colors that are inappropriate to the historic building or district.
Applying an appropriate protective coating such as lacquer to an architectural metal feature such as a bronze door which is subject to heavy pedestrian use.	Failing to assess pedestrian use or new access patterns so that architectural metal features are subject to damage by use or inappropriate maintenance such as salting adjacent sidewalks.
Evaluating the overall condition of the architectural metals to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.	Failing to undertake adequate measures to assure the preservation of architectural metal features.
Repairing architectual metal features by patching, splicing, or otherwise reinforcing the metal following recognized preservation methods. Repairs may also include the limited replacement in kind—or with a compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as porch balusters, column capitals or bases; or porch cresting.	Replacing an entire architectural metal feature such as a column or a balustrade when repair of the metal and limited replacement of deteriorated or missing parts are appropriate.
	Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the architectural metal feature or that is physically or chemically incompatible.
Replacing in kind an entire architectural metal feature that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. Examples could include cast iron porch steps or steel sash windows. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing an architectural metal feature that is unrepairable and not replacing it; or replacing it with a new architectural metal feature that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing a new architectural metal feature such as a sheet metal cornice or cast iron capital when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating a false historic appearance because the replaced architectural metal feature is based on insufficient historical, pictorial, and physical documentation.
	Introducing a new architectural metal feature that is incompatible in size, scale, material, and color.

Roofs

The roof—with its shape; features such as cresting, dormers, cupolas, and chimneys; and the size, color, and patterning of the roofing material—can be extremely important in defining the building's overall historic character. In addition to the design role it plays, a weathertight roof is essential to the preservation of the entire structure; thus, protecting and repairing the roof as a "cover" is a critical aspect of every rehabilitation project.

Recommended	*Not Recommended*
Identifying, retaining, and preserving roofs—and their functional and decorative features—that are important in defining the overall historic character of the building. This includes the roof's shape, such as hipped, gambrel, and mansard; decorative features such as cupolas, cresting, chimneys, and weathervanes; and roofing material such as slate, wood, clay tile, and metal, as well as its size, color, and patterning.	Radically changing, damaging, or destroying roofs which are important in defining the overall historic character of the building so that, as a result, the character is diminished.
	Removing a major portion of the roof or roofing material that is repairable, then reconstructing it with new material in order to create a uniform, or "improved" appearance.
	Changing the configuration of a roof by adding new features such as dormer windows, vents, or skylights so that the historic character is diminished.
	Stripping the roof of sound historic material such as slate, clay tile, wood, and architectural metal.
	Applying paint or other coatings to roofing material which has been historically uncoated.
Protecting and maintaining a roof by cleaning the gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to insure that materials are free from insect infestation.	Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure.
Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.	Allowing roof fasteners, such as nails and clips to corrode so that roofing material is subject to accelerated deterioration.
Protecting a leaking roof with plywood and building paper until it can be properly repaired.	Permitting a leaking roof to remain unprotected so that accelerated deterioration of historic building materials—masonry, wood, plaster, paint and structural members—occurs.
Repairing a roof by reinforcing the historic materials which comprise roof features. Repairs will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as cupola louvers, dentils, dormer roofing; or slates, tiles, or wood shingles on a main roof.	Replacing an entire roof feature such as a cupola or dormer when repair of the historic materials and limited replacement of deteriorated or missing parts are appropriate.
	Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the roof or that is physically or chemically incompatible.
Replacing in kind an entire feature of the roof that is too deteriorated to repair—if the overall form and detailing are still evidence—using the physical evidence to guide the new work. Examples can include a large section of roofing, or a dormer or chimney. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing a feature of the roof that is unrepairable, such as a chimney or dormer, and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and constructing a new feature when the historic feature is completely missing, such as a chimney or cupola. It may be an accurate restoration using historical, pictorial and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.	Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation.
	Introducing a new roof feature that is incompatible in size, scale, material, and color.

Recommended	*Not Recommended*
Alterations/Additions for the New Use	
Installing mechanical and service equipment on the roof such as air conditioning, transformers, or solar collectors when required for the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.	Installing mechanical or service equipment so that it damages or obscures character-defining features; or is conspicuous from the public right-of-way.
Designing additions to roofs such as residential, office, or storage spaces; elevator housing; decks and terraces; or dormers or skylights when required by the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining features.	Radically changing a character-defining roof shape or damaging or destroying character-defining roofing material as a result of incompatible design or improper installation techniques.

Windows

A highly decorative window with an unusual shape, or glazing pattern, or color is most likely identified immediately as a character-defining feature of the building. It is far more difficult, however, to assess the importance of repeated windows on a facade, particularly if they are individually simple in design and material, such as the large, multi-paned sash of many industrial buildings. Because rehabilitation projects frequently include proposals to replace window sash or even entire windows to improve thermal efficiency or to create a new appearance, it is essential that their contribution to the overall historic character of the building be assessed together with their physical condition before specific repair or replacement work is undertaken.

Recommended	*Not Recommended*
Identifying, retaining, and preserving windows—and their functional and decorative features—that are important in defining the overall historic character of the building. Such features can include frames, sash, muntins, glazing, sills, heads, hoodmolds, panelled or decorated jambs and moldings, and interior and exterior shutters and blinds.	Removing or radically changing windows which are important in defining the overall historic character of the building so that, as a result, the character is diminished.
	Changing the number, location, size or glazing pattern of windows, through cutting new openings, blocking-in windows, and installing replacement sash which does not fit the historic window opening.
	Changing the historic appearance of windows through the use of inappropriate designs, materials, finishes, or colors which radically change the sash, depth of reveal, and muntin configuration; the reflectivity and color of the glazing; or the appearance of the frame.
	Obscuring historic window trim with metal or other material.
	Stripping windows of historic material such as wood, iron, cast iron, and bronze.
Protecting and maintaining the wood and architectural metal which comprise the window frame, sash, muntins, and surrounds through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.	Failing to provide adequate protection of materials on a cyclical basis so that deterioration of the windows results.

Recommended	*Not Recommended*
Making windows weathertight by recaulking and replacing or installing weatherstripping. These actions also improve thermal efficiency.	Retrofitting or replacing windows rather than maintaining the sash, frame, and glazing.
Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, i.e. if repairs to windows and window features will be required.	Failing to undertake adequate measures to assure the preservation of historic windows.
Repairing window frames and sash by patching, splicing, consolidating or otherwise reinforcing. Such repair may also include replacement in kind of those parts that are either extensively deteriorated or are missing when there are surviving prototypes such as architraves, hoodmolds, sash, sills, and interior or exterior shutters and blinds.	Replacing an entire window when repair of materials and limited replacement of deteriorated or missing parts are appropriate. Failing to reuse serviceable window hardware such as brass lifts and sash locks. Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the window or that is physically or chemically incompatible.
Replacing in kind an entire window that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing a character-defining window that is unrepairable and blocking it in; or replacing it with a new window that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing new windows when the historic windows (frame, sash and glazing) are completely missing. The replacement windows may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the window openings and the historic character of the building.	Creating a false historical appearance because the replaced window is based on insufficient historical, pictorial, and physical documentation. Introducing a new design that is incompatible with the historic character of the building.

Recommended	*Not Recommended*
Alterations/Additions for the New Use	
Designing and installing additional windows on rear or other non character-defining elevations if required by the new use. New windows openings may also be cut into exposed party walls. Such design should be compatible with the overall design of the building, but not duplicate the fenestration pattern and detailing of a character-defining elevation. **Providing a setback in the design of dropped ceilings when they are required for the new use to allow for the full height of the window openings.**	Installing new windows, including frames, sash, and muntin configuration that are incompatible with the building's historic appearance or obscure, damage, or destroy character-defining features. Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are changed.

Entrances and Porches

Entrances and porches are quite often the focus of historic buildings, particularly when they occur on primary elevations. Together with their functional and decorative features such as doors, steps, balustrades, pilasters, and entablatures, they can be extremely important in defining the overall historic character of a building. Their retention, protection, and repair should always be carefully considered when planning rehabilitation work.

Recommended	*Not Recommended*
Identifying, retaining, and preserving entrances—and their functional and decorative features—that are important in defining the overall historic character of the building such as doors, fanlights, sidelights, pilasters, entablatures, columns, balustrades, and stairs.	Removing or radically changing entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished.
	Stripping entrances and porches of historic material such as wood, iron, cast iron, terra cotta, tile and brick.
	Removing an entrance or porch because the building has been reoriented to accommodate a new use.
	Cutting new entrances on a primary elevation.
	Altering utilitarian or service entrances so they appear to be formal entrances by adding panelled doors, fanlights, and sidelights.
Protecting and maintaining the masonry, wood, and architectural metal that comprise entrances and porches through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.	Failing to provide adequate protection to materials on a cyclical basis so that deterioration of entrances and porches results.
Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to entrance and porch features will be necessary.	Failing to undertake adequate measures to assure the preservation of historic entrances and porches.
Repairing entrances and porches by reinforcing the historic materials. Repair will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of repeated features where there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs.	**Replacing an entire entrance or porch when the repair of materials and limited replacement of parts are appropriate.**
	Using a substitute material for the replacement parts that does not convey the visual appearance of the surviving parts of the entrance and porch or that is physically or chemically incompatible.
Replacing in kind an entire entrance or porch that is too deteriorated to repair—if the form and detailing are still evident—using the physical evidence to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing an entrance or porch that is unrepairable and not replacing it; or replacing it with a new entrance or porch that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and constructing a new entrance or porch if the historic entrance or porch is completely missing. It may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the building.	Creating a false historical appearance because the replaced entrance or porch is based on insufficient historical, pictorial, and physical documentation.
	Introducing a new entrance or porch that is incompatible in size, scale, material, and color.

Alterations/Additions for the New Use

Designing enclosures for historic porches when required by the new use in a manner that preserves the historic character of the building. This can include using large sheets of glass and recessing the enclosure wall behind existing scrollwork, posts, and balustrades.	Enclosing porches in a manner that results in a diminution or loss of historic character such as using solid materials such as wood, stucco, or masonry.

Recommended	*Not Recommended*
Designing and installing additional entrances or porches when required for the new use in a manner that preserves the historic character of the building, i.e., limiting such alteration to non-character-defining elevations.	Installing secondary service entrances and porches that are incompatible in size and scale with the historic building or obscure, damage, or destroy character-defining features.

Storefronts

Storefronts are quite often the focus of historic commercial buildings and can thus be extremely important in defining the overall historic character. Because storefronts also play a crucial role in a store's advertising and merchandising strategy to draw customers and increase business, they are often altered to meet the needs of a new business. Particular care is required in planning and accomplishing work on storefronts so that the building's historic character is preserved in the process of rehabilitation.

Recommended	*Not Recommended*
Identifying, retaining, and preserving storefronts—and their functional and decorative features—that are important in defining the overall historic character of the building such as display windows, signs, doors, transoms, kick plates, corner posts, and entablatures.	Removing or radically changing storefronts—and their features—which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Changing the storefront so that it appears residential rather than commercial in character. Removing historic material from the storefront to create a recessed arcade. Introducing coach lanterns, mansard overhangings, wood shakes, nonoperable shutters, and small-paned windows if they cannot be documented historically. Changing the location of a storefront's main entrance.
Protecting and maintaining masonry, wood, and architectural metals which comprise storefronts through appropriate treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.	Failing to provide adequate protection to materials on a cyclical basis so that deterioration of storefront features results.

Recommended	*Not Recommended*
Protecting storefronts against arson and vandalism before work begins by boarding up windows and installing alarm systems that are keyed into local protection agencies.	Permitting entry into the building through unsecured or broken windows and doors so that interior features and finishes are damaged through exposure to weather or through vandalism.
	Stripping storefronts of historic material such as wood, cast iron, terra cotta, carrara glass, and brick.
Evaluating the overall condition of storefront materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.	Failing to undertake adequate measures to assure the preservation of the historic storefront.
Repairing storefronts by reinforcing the historic materials. Repairs will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of storefronts where there are surviving prototypes such as transoms, kick plates, pilasters, or signs.	Replacing an entire storefront when repair of materials and limited replacement of its parts are appropriate.
	Using substitute material for the replacement parts that does not convey the same visual appearance as the surviving parts of the storefront or that is physically or chemically incompatible.
Replacing in kind an entire storefront that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. If using the same material is not technically or economically feasible, then compatible substitute materials may be considered.	Removing a storefront that is unrepairable and not replacing it; or replacing it with a new storefront that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended	*Not Recommended*
Design for Missing Historic Features	
Designing and constructing a new storefront when the historic storefront is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building. Such new design should generally be flush with the facade; and the treatment of secondary design elements, such as awnings or signs, kept as simple as possible. For example, new signs should fit flush with the existing features of the facade, such as the fascia board or cornice.	Creating a false historical appearance because the replaced storefront is based on insufficient historical, pictorial, and physical documentation. Introducing a new design that is incompatible in size, scale, material, and color. Using new illuminated signs; inappropriately scaled signs and logos; signs that project over the sidewalk unless they were a characteristic feature of the historic building; or other types of signs that obscure, damage, or destroy remaining character-defining features of the historic building.

BUILDING INTERIOR
Structural System

If features of the structural system are exposed such as loadbearing brick walls, cast iron columns, roof trusses, posts and beams, vigas, or stone foundation walls, they may be important in defining the building's overall historic character. Unexposed structural features that are not character-defining or an entire structural system may nonetheless be significant in the history of building technology; therefore, the structural system should always be examined and evaluated early in the project planning stage to determine both its physical condition and its importance to the building's historic character or historical significance. See also Health and Safety Code Requirements.

Recommended	*Not Recommended*
Identifying, retaining, and preserving structural systems—and individual features of systems—that are important in defining the overall historic character of the building, such as post and beam systems, trusses, summer beams, vigas, cast iron columns, above-grade stone foundation walls, or loadbearing brick or stone walls.	Removing, covering, or radically changing features of structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished.
	Putting a new use into the building which could overload the existing structural system; or installing equipment or mechanical systems which could damage the structure.
	Demolishing a loadbearing masonry wall that could be augmented and retained and replacing it with a new wall (i.e., brick or stone), using the historic masonry only as an exterior veneer.
	Leaving known structural problems untreated such as deflection of beams, cracking and bowing of walls, or racking of structural members.
	Utilizing treatments or products that accelerate the deterioration of structural material such as introducing urea-formaldehyde foam insulation into frame walls.
Protecting and maintaining the structural system by cleaning the roof gutters and downspouts; replacing roof flashing; keeping masonry, wood, and architectural metals in a sound condition; and assuring that structural members are free from insect infestation.	Failing to provide proper building maintenance on a cyclical basis so that deterioration of the structural system results.
Examining and evaluating the physical condition of the structural system and its individual features using non-destructive techniques such as X-ray photography.	Utilizing destructive probing techniques that will damage or destroy structural material.
Repairing the structural system by augmenting or upgrading individual parts or features. For example, weakened structural members such as floor framing can be spliced, braced, or otherwise supplemented and reinforced.	Upgrading the building structurally in a manner that diminishes the historic character of the exterior, such as installing strapping channels or removing a decorative cornice; or damages interior features or spaces.
	Replacing a structural member or other feature of the structural system when it could be augmented and retained.
Replacing in kind—or with substitute material—those portions or features of the structural system that are either extensively deteriorated or are missing when there are surviving prototypes such as cast iron columns, roof rafters or trusses, or sections of loadbearing walls. Substitute material should convey the same form, design, and overall visual appearance as the historic feature; and, at a minimum, be equal to its loadbearing capabilities.	Installing a replacement feature that does not convey the same visual appearance, e.g., replacing an exposed wood summer beam with a steel beam.
	Using substitute material that does not equal the loadbearing capabilities of the historic material and design or is otherwise physically or chemically incompatible.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended	*Not Recommended*
Alterations/Additions for the New Use	
Limiting any new excavations adjacent to historic foundations to avoid undermining the structural stability of the building or adjacent historic buildings.	Carrying out excavations or regrading adjacent to or within a historic building which could cause the historic foundation to settle, shift, or fail; or could have a similar effect on adjacent historic buildings.
Correcting structural deficiencies in preparation for the new use in a manner that preserves the structural system and individual character-defining features.	Radically changing interior spaces or damaging or destroying features or finishes that are character-defining while trying to correct structural deficiencies in preparation for the new use.
Designing and installing new mechanical or electrical systems when required for the new use which minimize the number of cutouts or holes in structural members.	Installing new mechanical and electrical systems or equipment in a manner which results in numerous cuts, splices, or alterations to the structural members.
Adding a new floor when required for the new use if such an alteration does not damage or destroy the structural system or obscure, damage, or destroy character-defining spaces, features, or finishes.	Inserting a new floor when such a radical change damages a structural system or obscures or destroys interior spaces, features, or finishes.
	Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are radically changed.
Creating an atrium or a light well to provide natural light when required for the new use in a manner that assures the preservation of the structural system as well as character-defining interior spaces, features, and finishes.	Damaging the structural system or individual features; or radically changing, damaging, or destroying character-defining interior spaces, features, or finishes in order to create an atrium or a light well.

Interior: Spaces, Features, and Finishes

An interior floor plan, the arrangement of spaces, and built-in features and applied finishes may be individually or collectively important in defining the historic character of the building. Thus, their identification, retention, protection, and repair should be given prime consideration in every rehabilitation project and caution exercised in pursuing any plan that would radically change character-defining spaces or obscure, damage or destroy interior features or finishes.

Recommended	*Not Recommended*
Interior Spaces	
Identifying, retaining, and preserving a floor plan or interior spaces that are important in defining the overall historic character of the building. This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial use spaces.	Radically changing a floor plan or interior spaces—including individual rooms—which are important in defining the overall historic character of the building so that, as a result, the character is diminished.
	Altering the floor plan by demolishing principal walls and partitions to create a new appearance.
	Altering or destroying interior spaces by inserting floors, cutting through floors, lowering ceilings, or adding or removing walls.
	Relocating an interior feature such as a staircase so that the historic relationship between features and spaces is altered.

Recommended	*Not Recommended*
Interior Features and Finishes	
Identifying, retaining, and preserving interior features and finishes that are important in defining the overall historic character of the building, including columns, cornices, baseboards, fireplaces and mantles, paneling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stenciling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.	Removing or radically changing features and finishes which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Installing new decorative material that obscures or damages character-defining interior features or finishes. Removing paint, plaster, or other finishes from historically finished surfaces to create a new appearance (e.g., removing plaster to expose masonry surfaces such as brick walls or a chimney piece). Applying paint, plaster, or other finishes to surfaces that have been historically unfinished to create a new appearance. Stripping historically painted wood surfaces to bare wood, then applying clear finishes or stains to create a "natural look." Stripping paint to bare wood rather than repairing or reapplying grained or marbled finishes to features such as doors and paneling. Radically changing the type of finish or its color, such as painting a previously varnished wood feature.
Protecting and maintaining masonry, wood, and architectural metals which comprise interior features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coatings systems.	Failing to provide adequate protection to materials on a cyclical basis so that deterioration of interior features results.
Protecting interior features and finishes against arson and vandalism before project work begins, erecting protective fencing, boarding-up windows, and installing fire alarm systems that are keyed to local protection agencies.	Permitting entry into historic buildings through unsecured or broken windows and doors so that interior features and finishes are damaged by exposure to weather or through vandalism. Stripping interiors of features such as woodwork, doors, windows, light fixtures, copper piping, radiators; or of decorative materials.
Protecting interior features such as a staircase, mantel, or decorative finishes and wall coverings against damage during project work by covering them with heavy canvas or plastic sheets.	Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented, or otherwise damaged.
Installing protective coverings in areas of heavy pedestrian traffic to protect historic features such as wall coverings, parquet flooring and panelling.	Failing to take new use patterns into consideration so that interior features and finishes are damaged.
Removing damaged or deteriorated paints and finishes to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems.	Using destructive methods such as propane or butane torches or sandblasting to remove paint or other coatings. These methods can irreversibly damage the historic materials that comprise interior features.
Repainting with colors that are appropriate to the historic building.	Using new paint colors that are inappropriate to the historic building.
Limiting abrasive cleaning methods to certain industrial or warehouse buildings where the interior masonry or plaster features do not have distinguishing design, detailing, tooling, or finishes; and where wood features are not finished, molded, beaded, or worked by hand. Abrasive cleaning should *only* be considered after other, gentler methods have been proven ineffective.	Changing the texture and patina of character-defining features through sandblasting or use of other abrasive methods to remove paint, discoloration or plaster. This includes both exposed wood (including structural members) and masonry.
Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to interior features and finishes will be necessary.	Failing to undertake adequate measures to assure the preservation of interior features and finishes.

Recommended	*Not Recommended*
Repairing interior features and finishes by reinforcing the historic materials. Repair will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of repeated features when there are surviving prototypes such as stairs, balustrades, wood panelling, columns; or decorative wall coverings or ornamental tin or plaster ceilings.	Replacing an entire interior feature such as a staircase, panelled wall, parquet floor, or cornice; or finish such as a decorative wall covering or ceiling when repair of materials and limited replacement of such parts are appropriate. Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts or portions of the interior feature or finish or that is physically or chemically incompatible.
Replacing in kind an entire interior feature or finish that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. Examples could include wainscoting, a tin ceiling, or interior stairs. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing a character-defining feature or finish that is unrepairable and not replacing it; or replacing it with a new feature or finish that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Recommended	*Not Recommended*
Designing and installing a new interior feature or finish if the historic feature or finish is completely missing. This could include missing partitions, stairs, elevators, lighting fixtures, and wall coverings; or even entire rooms if all historic spaces, features, and finishes are missing or have been destroyed by inappropriate "renovations." The design may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the building, district, or neighborhood.	Creating a false historical appearance because the replaced feature is based on insufficient physical, historical, and pictorial documentation or on information derived from another building. Introducing a new interior feature or finish that is incompatible with the scale, design, materials, color, and texture of the surviving interior features and finishes.

Alterations/Additions for the New Use

Recommended	*Not Recommended*
Accommodating service functions such as bathrooms, mechanical equipment, and office machines required by the building's new use in secondary spaces such as first floor service areas or on upper floors.	Dividing rooms, lowering ceilings, and damaging or obscuring character-defining features such as fireplaces, niches, stairways or alcoves, so that a new use can be accommodated in the building.
Reusing decorative material or features that have had to be removed during the rehabilitation work including wall and baseboard trim, door moulding, panelled doors, and simple wainscoting; and relocating such material or features in areas appropriate to their historic placement.	Discarding historic material when it can be reused within the rehabilitation project or relocating it in historically inappropriate areas.
Installing permanent partitions in secondary spaces; removable partitions that do not destroy the sense of space should be installed when the new use requires the subdivision of character-defining interior spaces.	Installing permanent partitions that damage or obscure character-defining spaces, features, or finishes.
Enclosing an interior stairway where required by code so that its character is retained. In many cases, glazed fire-rated walls may be used.	Enclosing an interior stairway with fire-rated construction so that the stairwell space or any character-defining features are destroyed.
Placing new code-required stairways or elevators in secondary and service areas of the historic building.	Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding new code-required stairways and elevators.

Recommended	*Not Recommended*
Creating an atrium or a light well to provide natural light when required for the new use in a manner that preserves character-defining interior spaces, features, and finishes as well as the structural system.	Destroying character-defining interior spaces, features, or finishes; or damaging the structural system in order to create an atrium or light well.
Adding a new floor if required for the new use in a manner that preserves character-defining structural features, and interior spaces, features, and finishes.	Inserting a new floor within a building that alters or destroys the fenestration; radically changes a character-defining interior space; or obscures, damages, or destroys decorative detailing.

Mechanical Systems: Heating, Air Conditioning, Electrical, and Plumbing	The visible features of historic heating, lighting, air conditioning and plumbing systems may sometimes help define the overall historic character of the building and should thus be retained and repaired, whenever possible. The systems themselves (the compressors, boilers, generators and their ductwork, wiring and pipes) will generally either need to be upgraded, augmented, or entirely replaced in order to accommodate the new use and to meet code requirements. Less frequently, individual portions of a system or an entire system are significant in the history of building technology; therefore, the identification of character-defining features or historically significant systems should take place together with an evaluation of their physical condition early in project planning.

Recommended	*Not Recommended*
Identifying, retaining, and preserving visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights.	Removing or radically changing features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.
Protecting and maintaining mechanical, plumbing, and electrical systems and their features through cyclical cleaning and other appropriate measures.	Failing to provide adequate protection of materials on a cyclical basis so that deterioration of mechanical systems and their visible features results.
Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces, and cellars so that moisture problems are avoided.	Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results.
Repairing mechanical systems by augmenting or upgrading system parts, such as installing new pipes and ducts; rewiring; or adding new compressors or boilers.	Replacing a mechanical system or its functional parts when it could be upgraded and retained.
Replacing in kind—or with compatible substitute material—those visible features of mechanical systems that are either extensively deteriorated or are missing when there are surviving prototypes such as ceiling fans, switchplates, radiators, grilles, or plumbing fixtures.	Installing a replacement feature that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended	*Not Recommended*
Alterations/Additions for the New Use	
Installing a completely new mechanical system if required for the new use so that it causes the least alteration possible to the building's floor plan, the exterior elevations, and the least damage to historic building material.	Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.
Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.	Installing vertical runs of ducts, pipes, and cables in places where they will obscure character-defining features. Concealing mechanical equipment in walls or ceilings in a manner that requires the removal of historic building material. Installing "dropped" acoustical ceilings to hide mechanical equipment when this destroys the proportions of character-defining interior spaces.
Installing air conditioning units if required by the new use in such a manner that the historic materials and features are not damaged or obscured.	Cutting through features such as masonry walls in order to install air conditioning units.
Installing heating/air conditioning units in the window frames in such a manner that the sash and frames are protected. Window installations should be considered only when all other viable heating/cooling systems would result in significant damage to historic materials.	Radically changing the appearance of the historic building or damaging or destroying windows by installing heating/air conditioning units in historic window frames.

BUILDING SITE

The relationship between a historic building or buildings and landscape features within a property's boundaries—or the building site—helps to define the historic character and should be considered an integral part of overall planning for rehabilitation project work.

Recommended	*Not Recommended*
Identifying, retaining, and preserving buildings and their features as well as features of the site that are important in defining its overall historic character. Site features can include driveways, walkways, lighting, fencing, signs, benches, fountains, wells, terraces, canal systems, plants and trees, berms, and drainage or irrigation ditches; and archeological features that are important in defining the history of the site.	Removing or radically changing buildings and their features or site features which are important in defining the overall historic character of the building site so that, as a result, the character is diminished.
Retaining the historic relationship between buildings, landscape features, and open space.	Removing or relocating historic buildings or landscape features, thus destroying the historic relationship between buildings, landscape features, and open space. Removing or relocating historic buildings on a site or in a complex of related historic structures—such as a mill complex or farm—thus diminishing the historic character of the site or complex. Moving buildings onto the site, thus creating a false historical appearance. Lowering the grade level adjacent to a building to permit development of a formerly below-grade area such as a basement in a manner that would drastically change the historic relationship of the building to its site.
Protecting and maintaining buildings and the site by providing proper drainage to assure that water does not erode foundation walls; drain toward the building; nor erode the historic landscape.	Failing to maintain site drainage so that buildings and site features are damaged or destroyed; or, alternatively, changing the site grading so that water no longer drains properly.

Recommended	*Not Recommended*
Minimizing disturbance of terrain around buildings or elsewhere on the site, thus reducing the possibility of destroying unknown archeological materials.	Introducing heavy machinery or equipment into areas where their presence may disturb archeological materials.
Surveying areas where major terrain alteration is likely to impact important archeological sites.	Failing to survey the building site prior to the beginning of rehabilitation project work so that, as a result, important archeological material is destroyed.
Protecting, e.g. preserving in place known archeological material whenever possible.	Leaving known archeological material unprotected and subject to vandalism, looting, and destruction by natural elements such as erosion.
Planning and carrying out any necessary investigation using professional archeologists and modern archeological methods when preservation in place is not feasible.	Permitting unqualified project personnel to perform data recovery so that improper methodology results in the loss of important archeological material.
Protecting the building and other features of the site against arson and vandalism before rehabilitation work begins, i.e., erecting protective fencing and installing alarm systems that are keyed into local protection agencies.	Permitting buildings and site features to remain unprotected so that plant materials, fencing, walkways, archeological features, etc. are damaged or destroyed. Stripping features from buildings and the site such as wood siding, iron fencing, masonry balustrades; or removing or destroying landscape features, including plant material.
Providing continued protection of masonry, wood, and architectural metals which comprise building and site features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems; and continued protection and maintenance of landscape features, including plant material.	Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building and site features results.

Recommended	*Not Recommended*
Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to building and site features will be necessary.	Failing to undertake adequate measures to assure the preservation of building and site features.
Repairing features of buildings and the site by reinforcing the historic materials. Repair will also generally include replacement in kind—with a compatible substitute material—of those extensively deteriorated or missing parts of features where there are suviving prototypes such as fencing and paving.	Replacing an entire feature of the building or site such as a fence, walkway, or driveway when repair of materials and limited replacement of deteriorated or missing parts are appropriate. Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building or site feature or that is physically or chemically incompatible.
Replacing in kind an entire feature of the building or site that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. This could include an entrance or porch, walkway, or fountain. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing a feature of the building or site that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation project work and should only be considered after the preservation concerns listed above have been addressed.

Recommended	*Not Recommended*
Design for Missing Historic Features	
Designing and constructing a new feature of a building or site when the historic feature is completely missing, such as an outbuilding, terrace, or driveway. It may be based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the building and site.	Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial, and physical documentation. Introducing a new building or site feature that is out of scale or otherwise inappropriate. Introducing a new landscape feature or plant material that is visually incompatible with the site or that destroys site patterns or vistas.
Alterations/Additions for the New Use	
Designing new onsite parking, loading docks, or ramps when required by the new use so that they are as unobtrusive as possible and assure the preservation of character-defining features of the site. **Designing new exterior additions to historic buildings or adjacent new construction which is compatible with the historic character of the site and which preserve the historic relationship between a building or buildings, landscape features, and open space.** **Removing nonsignificant buildings, additions, or site features which detract from the historic character of the site.**	Placing parking facilities directly adjacent to historic buildings where automobiles may cause damage to the buildings or landscape features or be intrusive to the building site. Introducing new construction onto the building site which is visually incompatible in terms of size, scale, design, materials, color and texture or which destroys historic relationships on the site. Removing a historic building in a complex, a building feature, or a site feature which is important in defining the historic character of the site.

DISTRICT/ NEIGHBORHOOD

The relationship between historic buildings, and streetscape and landscape features within a historic district or neighborhood helps to define the historic character and therefore should always be a part of the rehabilitation plans.

Recommended	*Not Recommended*
Identifying, retaining, and preserving buildings, and streetscape, and landscape features which are important in defining the overall historic character of the district or neighborhood. Such features can include streets, alleys, paving, walkways, street lights, signs, benches, parks and gardens, and trees.	Removing or radically changing those features of the district or neighborhood which are important in defining the overall historic character so that, as a result, the character is diminished.
Retaining the historic relationship between buildings, and streetscape and landscape features such as a town square comprised of row houses and stores surrounding a communal park or open space.	Destroying streetscape and landscape features by widening existing streets, changing paving material, or introducing inappropriately located new streets or parking lots. Removing or relocating historic buildings, or features of the streetscape and landscape, thus destroying the historic relationship between buildings, features and open space.
Protecting and maintaining the historic masonry, wood, and architectural metals which comprise building and streetscape features, through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems; and protecting and maintaining landscape features, including plant material.	Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building, streetscape, and landscape features results.
Protecting buildings, paving, iron fencing, etc. against arson and vandalism before rehabilitation work begins by erecting protective fencing and installing alarm systems that are keyed into local protection agencies.	Permitting buildings to remain unprotected so that windows are broken; and interior features are damaged. Stripping features from buildings or the streetscape such as wood siding, iron fencing, or terra cotta balusters; or removing or destroying landscape features, including plant material.

Recommended	*Not Recommended*
Evaluating the overall condition of building, streetscape and landscape materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.	Failing to undertake adequate measures to assure the preservation of building, streetscape, and landscape features.
Repairing features of the building, streetscape, or landscape by reinforcing the historic materials. Repair will also generally include the replacement in kind—or with a compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as porch balustrades, paving materials, or streetlight standards.	Replacing an entire feature of the building, streetscape, or landscape such as a porch, walkway, or streetlight, when repair of materials and limited replacement of deteriorated or missing parts are appropriate. Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building, streetscape, or landscape feature or that is physically or chemically incompatible.
Replacing in kind an entire feature of the building, streetscape, or landscape that is too deteriorated to repair—when the overall form and detailing are still evident—using the physical evidence to guide the new work. This could include a storefront, a walkway, or a garden. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing a feature of the building, streetscape, or landscape that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

The following work is highlighted because it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended	*Not Recommended*
Design for Missing Historic Features	
Designing and constructing a new feature of the building, streetscape, or landscape when the historic feature is completely missing, such as row house steps, a porch, streetlight, or terrace. It may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the district or neighborhood.	Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial and physical documentation. Introducing a new building, streetscape or landscape feature that is out of scale or otherwise inappropriate to the setting's historic character, e.g., replacing picket fencing with chain link fencing.
Alterations/Additions for the New Use	
Designing required new parking so that it is as unobtrusive as possible, i.e., on side streets or at the rear of buildings. "Shared" parking should also be planned so that several business can utilize one parking area as opposed to introducing random, multiple lots.	Placing parking facilities directly adjacent to historic buildings which cause the removal of historic plantings, relocation of paths and walkways, or blocking of alleys.
Designing and constructing new additions to historic buildings when required by the new use. New work should be compatible with the historic character of the district or neighborhood in terms of size, scale, design, material, color, and texture.	Introducing new construction into historic districts that is visually incompatible or that destroys historic relationships within the district or neighborhood.
Removing nonsignificant buildings, additions, or streetscape and landscape features which detract from the historic character of the district or the neighborhood.	Removing a historic building, building feature, or landscape or streetscape feature that is important in defining the overall historic character of the district or the neighborhood.

Although the work in these sections is quite often an important aspect of rehabilitation projects, it is usually *not* part of the overall process of preserving character-defining features (maintenance, repair, replacement); rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to obscure, radically change, damage, or destroy character-defining features in the process of rehabilitation work to meet new use requirements.

HEALTH AND SAFETY CODE REQUIREMENTS

As a part of the new use, it is often necessary to make modifications to a historic building so that it can comply with current health, safety and code requirements. Such work needs to be carefully planned and undertaken so that it does not result in a loss of character-defining spaces, features, and finishes.

Recommended	*Not Recommended*
Identifying the historic building's character-defining spaces, features, and finishes so that code-required work will not result in their damage or loss.	Undertaking code-required alterations to a building or site before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.
Complying with health and safety code, including seismic codes and barrier-free access requirements, in such a manner that character-defining spaces, features, and finishes are preserved.	Altering, damaging, or destroying character-defining spaces, features, and finishes while making modifications to a building or site to comply with safety codes.
Working with local code officials to investigate alternative life safety measures or variances available under some codes so that alterations and additions to historic buildings can be avoided.	Making changes to historic buildings without first seeking alternatives to code requirements.
Providing barrier-free access through removable or portable, rather than permanent, ramps.	Installing permanent ramps that damage or diminish character-defining features.
Providing seismic reinforcement to a historic building in a manner that avoids damaging the structural system and character-defining features.	Reinforcing a historic building using measures that damage or destroy character-defining structural and other features.
Upgrading historic stairways and elevators to meet health and safety codes in a manner that assures their preservation, i.e., so that they are not damaged or obscured.	Damaging or obscuring historic stairways and elevators or altering adjacent spaces in the process of doing work to meet code requirements.
Installing sensitively designed fire suppression systems, such as a sprinkler system for wood frame mill buildings, instead of applying fire-resistant sheathing to character-defining features.	Covering character-defining wood features with fire-resistant sheathing which results in altering their visual appearance.

Recommended	*Not Recommended*
Applying fire-retardant coatings, such as intumescent paints, which expand during fire to add thermal protection to steel.	Using fire-retardant coatings if they damage or obscure character-defining features.
Adding a new stairway or elevator to meet health and safety codes in a manner that preserves adjacent character-defining features and spaces.	Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding a new code-required stairway or elevator.
Placing a code-required stairway or elevator that cannot be accommodated within the historic building in a new exterior addition. Such an addition should be located at the rear of the building or on an inconspicuous side; and its size and scale limited in relationship to the historic building.	Constructing a new addition to accommodate code-required stairs and elevators on character-defining elevations highly visible from the street; or where it obscures, damages or destroys character-defining features.

ENERGY RETROFITTING

Some character-defining features of a historic building or site such as cupolas, shutters, transoms, skylights, sun rooms, porches, and plantings also play a secondary energy conserving role. Therefore, prior to retrofitting historic buildings to make them more energy efficient, the first step should always be to identify and evaluate the existing historic features to assess their inherent energy conserving potential. If it is determined that retrofitting measures are necessary, then such work needs to be carried out with particular care to insure that the building's historic character is preserved in the process of rehabilitation.

Recommended	*Not Recommended*
District/Neighborhood	
Maintaining those existing landscape features which moderate the effects of the climate on the setting such as deciduous trees, evergreen wind-blocks, and lakes or ponds.	Stripping the setting of landscape features and landforms so that the effects of the wind, rain, and the sun result in accelerated deterioration of historic materials.
Building Site	
Retaining plant materials, trees, and landscape features, especially those which perform passive solar energy functions such as sun shading and wind breaks.	Removing plant materials, trees, and landscape features, so that they no longer perform passive solar energy functions.
Installing freestanding solar collectors in a manner that preserves the historic property's character-defining features.	Installing freestanding solar collectors that obscure, damage, or destroy historic landscape or archeological features.
Designing attached solar collectors, including solar greenhouses, so that the character-defining features of the property are preserved.	Locating solar collectors where they radically change the property's appearance; or damage or destroy character-defining features.
Masonry/Wood/Architectural Metals	
Installing thermal insulation in attics and in unheated cellars and crawlspaces to increase the efficiency of the existing mechanical systems.	Applying urea of formaldehyde foam or any other thermal insulation with a water content into wall cavities in an attempt to reduce energy consumption.

Recommended	*Not Recommended*
Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior moulding around the window or other interior architectural detailing.	Resurfacing historic building materials with more energy efficient but incompatible materials, such as covering historic masonry with exterior insulation.
Installing passive solar devices such as a glazed "trombe" wall on a rear or inconspicuous side of all the historic building.	Installing passive solar devices such as an attached glazed "trombe" wall on primary or other highly visible elevations; or where historic material must be removed or obscured.
Roofs	
Placing solar collectors on noncharacter-defining roofs or roofs of nonhistoric adjacent buildings.	Placing solar collectors on roofs when such collectors change the historic roofline or obscure the relationship of the roof to character-defining roof features such as dormers, skylights, and chimneys.
Windows	
Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds in good operable condition for natural ventilation.	Removing historic shading devices rather than keeping them in an operable condition.
Improving thermal efficiency with weatherstripping, storm windows, caulking, interior shades, and, if historically appropriate, blinds and awnings.	Replacing historic multi-paned sash with new thermal sash utilizing false muntins.
Installing interior storm windows with airtight gaskets, ventilating holes, and/or removable clips to insure proper maintenance and to avoid condensation damage to historic windows.	Installing interior storm windows that allow moisture to accumulate and damage the window.
Installing exterior storm windows which do not damage or obscure the windows and frames.	Installing new exterior storm windows which are inappropriate in size or color, which are inoperable.
	Replacing windows or transoms with fixed thermal glazing or permitting windows and transoms to remain inoperable rather than utilizing them for their energy conserving potential.
Considering the use of lightly tinted glazing on non-character-defining elevations if other energy retrofitting alternatives are not possible.	Using tinted or reflective glazing on character-defining or other conspicuous elevations.
Entrances and Porches	
Utilizing the inherent energy conserving features of a building by maintaining porches, and double vestibule entrances. in good condition so that they can retain heat or block the sun and provide natural ventilation.	Enclosing porches located on character defining elevations to create passive solar collectors or airlock vestibules. Such enclosures can destroy the historic appearance of the building.
Interior Features	
Retaining historic interior shutters and transoms for their inherent energy conserving features.	Removing historic interior features which play a secondary energy conserving role.
New Additions to Historic Buildings	
Placing new additions that have an energy conserving function such as a solar greenhouse on non-character-defining elevations.	Installing new additions such as multistory solar greenhouse additions which obscure, damage, destroy character-defining features.
Mechanical Systems	
Installing thermal insulation in attics and in unheated cellars and crawlspaces to conserve energy.	Apply urea formaldehyde foam or any other thermal insulation with a water content or that may collect moisture into wall cavities.

NEW ADDITIONS TO HISTORIC BUILDINGS

An attached exterior addition to a historic building expands its "outer limits" to create a new profile. Because such expansion has the capability to radically change the historic appearance, an exterior addition should be considered only after it has been determined that the new use cannot be successfully met by altering non-character-defining *interior* spaces. If the new use cannot be met in this way, then an attached exterior addition is usually an acceptable alternative. New additions should be designed and constructed so that the character-defining features of the historic building are not radically changed, obscured, damaged, or destroyed in the process of rehabilitation. New design should always be clearly differentiated so that the addition does not appear to be part of the historic resources.

Recommended	*Not Recommended*
Placing functions and services required for the new use in non-character-defining interior spaces rather than installing a new addition.	Expanding the size of the historic building by constructing a new addition when the new use could be met by altering non-character-defining interior spaces.
Constructing a new addition so that there is the least possible loss of historic materials and so that character-defining features are not obscured, damaged, or destroyed.	Attaching a new addition so that the character-defining features of the historic building are obscured, damaged, or destroyed.
Locating the attached exterior addition at the rear or on an inconspicuous side of a historic building; and limiting its size and scale in relationship to the historic building.	Designing a new addition so that its size and scale in relation to the historic building are out of proportion, thus diminishing the historic character.
Designing new additions in a manner that makes clear what is historic and what is new.	Duplicating the exact form, material, style, and detailing of the historic building in the new addition so that the new work appears to be part of the historic building. Imitating a historic style or period of architecture in new additions, especially for contemporary uses such as drive-in banks or garages.
Considering the attached exterior addition both in terms of the new use and the appearance of other buildings in the historic district or neighborhood. Design for the new work may be contemporary or may reference design motifs from the historic building. In either case, it should always be clearly differentiated from the historic building and be compatible in terms of mass, materials, relationship of solids to voids, and color.	Designing and constructing new additions that result in the diminution or loss of the historic character of the resource, including its design, materials, workmanship, location, or setting. Using the same wall plane, roof line, cornice height, materials, siding lap or window type to make additions appear to be a part of the historic building.
Placing new additions such as balconies and greenhouses on non-character-defining elevations and limiting the size and scale in relationship to the historic building.	Designing new additions such as multistory greenhouse additions that obscure, damage, or destroy character-defining features of the historic building.
Designing additional stories, when required for the new use, that are set back from the wall plane and are as inconspicuous as possible when viewed from the street.	Constructing additional stories so that the historic appearance of the building is radically changed.